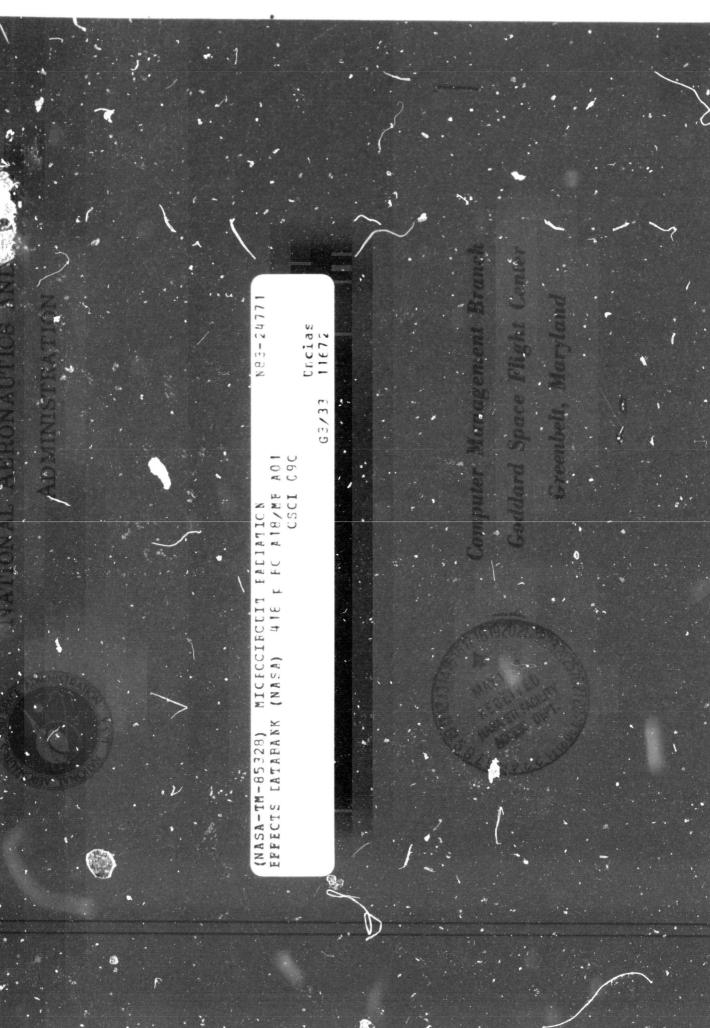
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ORIGINAL PAGE IS OF POOR QUALITY,

MICROCIRCUIT RADIATION EFFECTS DATABANK

FEBRUARY 1983

PREPARED BY: SPERRY DATA MISSION
PARTS BRANCH, CODE 311
PRODUCT ASSURANCE DIVISION
NASA/GODDARD SPACE FLIGHT CENTER
GREENBELT, MD 20771

FOR ADDITIONAL INFORMATION CONTACT: J. W. ADDLPHSEN 301-344-8896

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AS A REFERENCE FOR ENGINEERS WHO ARE CONCERNED WITH AND HAVE SOME KNOWLEDGE OF THE EFFECTS OF THE NATURAL RADIATION ENVIRONMENT ON MICROCIRCUITS. IT CONTAINS RADIATION SENSITIVITY RESULTS FROM GROUND TESTS AND IS DIVIDED INTO TWO SECTIONS. SECTION A LISTS SINGLE EVENT UPSET CROSS SECTIONS, I.E., THE PROBABILITY OF A SOFT ERROR (BIT FLIP) OR OF A HARD ERROR (LATCHUP) PURPOSE OF THIS DATABANK IS TO COLLATE RADIATION TEST DATA SUBMITTED BY MANY TESTERS AND TO SERVE

INTRODUCTION

GENERATED SINCE 1975. DATA WERE REVIEWED AND REFORMATTED AS PRESENTED HEREIN SO THAT ALL DATA WOLLD APPEAR IN A UNIFORM MANNER, AND TO IDENTIFY AND EMPHASIZE SIGNIFICANT DETAILS. THERE WAS NO FURTHER REDUCTION OR ANALYSIS OF DATA PERFORMED OTHER THAN TO CALCULATE THE MEAN AND STANDARD DEVIATION VALUES, IF THE DATA WERE NOT ALREADY SO PRESENTED. MUCH OF THE DATA RECEIVED WAS QUESTIONS WERE INCOMPLETE. CLEARLY MANY TESTS OF DOOR PART INDENTIFICATION OR ECCAUSE DETAILS OF THE TEST CONDITIONS WERE INCOMPLETE. CLEARLY MANY TESTS WERE CONDUCTED TO ANSWER VERY SPECIFIC QUESTIONS, SUCH AS WHETHER A DEVICE WAS STILL FUNCTIONAL AFTER A GIVEN DOSE. ALTHOUGH SOME OF THE DATA SUBMITTED WAS NOT USBLE, IF IT APPEARED TO HAVE ANY UTILITY AT ALL, IT WAS INCLUDED, EVEN THOUGH EVENTUAL USERS MIGHT HAVE SOME QUESTIONS. SOME BACKTRACKING TO THE SUBMITTERS OF DATA WAS DONE IN ORDER TO VALIDATE OR CLARIFY AMBIGUOUS DATA, BUT MANY USERS AND TESTERS IN THE AERÖSPACE COMMUNITY WEPE SOLICITED TO SUBMIT APPROPRIATE DATA WHICH WAS SCHEDULE AND FUNDING LIMITED HOW MUCH OF THIS COULD BE DONE.

STANDING OF, RADIATION EFFECTS ON MICROCIRCUITS. WHEN THE UNCERTAINTIES OF DATA VALIDITY OR, COMPREHENSIVENESS NOTED ABOVE ARE COUPLED WITH THE WIDELY KNOWN VARIATIONS IN PRODUCT HARDNESS (DUE TO DIFFERING MANUFACTURING PROCESSES AND TO THE EFFECTS OF MINOR CHANGES WITHIN A PROCESS, CAUTION SHOULD BE USED IN INTERPRETING THE DATA FOR USE IN A GIVEN APPLICATION. A LAYMAN IN THE FIELD ASSUMES SOME RISK IF THESE DATA ARE SUPERFICIALLY APPLIED, OR ARE MISAPPLIED BY NOT CONSIDERING THE VARIATIONS POSSIBLE IN THE MANUFACTURED PRODUCT IN TS CIRCUIT APPLICATION AND IN 1TS USE ENVIRONMENT. THIS CAVEAT IS ESPECIALLY TRUE FRUE FOR THE SINGLE EVENT UPSET DATA OF SECTION B. THE UPSET LATCHUP RATES GIVEN FOR EACH DATA SET ENTRY (RECORD) ARE NOT THE TRUE DEVICE ERROR RATES. RATHER, SEVERAL DATA SETS MAY BE NECESSARY TO DETERMINE THE THE THE THE FOR DEVICE INFORMATION. THAT INFORMATION, TOGETHER WITH A DETAILED BREAKDOWN OF THE COSMIC RAY SPECTRUM, MUST THEN A GIVEN APPLICATION ENVIRONMENT (ORBIT). A FINAL COMMENT IS THAT IT IS ASSUMED THAT THE USER OF THIS DATABANK HAS SOME EXPERIENCE IN, AND UNDER

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TABLE OF CONTENTS

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DEFINITION OF SYMBOLS

INCIDENT ANGLE (IN DEGREES) OF PARTICLE BEAM ON DEVICE UNDER TEST; REFERENCE IS NORMAL TO THE PLANE OF THE CHIP ANOMALOUS

ARGON

ANGLE

ANOM

AVERAGE

BIAS (SINGLE EVENT UPSET SECTION)

AVG AR

BIAS (TOTAL DOSE SECTION)

09-00

CONT

SUPPLY VOLTAGE VALUE DURING IRRADIATION

SUPPLY VOLTAGE VALUE AND INPUT/OUTPUT CONTROL CONTROLS DURING IRRADIATION

COBALT-60

CONTINUED

CUMULATIVE TOTAL ABSORBED DOSE IN RAD'S

CUM. DOSE (RAD'S)

D (PARAMETER) DATA SOURCE "(DITTO)

DELTA (CHANGE) IN PARAMETER

NAME OF COMPANY WHICH PERFORMED TESTS

REPETITION OF DATA ABOVE SYMBOL

ELECTRONS

ENERGY OF THE INCIDENT PARTICLE BEAM

TEST UPSET RATE IN UPSET/PARTICLE/SQ. CM./(MEMORY) BIT

(METAL) EVAPORATION RUN

NUMBER OF PARTICLE INCIDENT ON THE DEVICE UNDER TEST AND USED IN COMPUTING THE CROSS SECTIONS FOR A DATA SET (RECORD)

ERROR CROSS SECTION

ENERGY

H

FLUENCE

ER

APPLICATION PURPOSE

BASIC PART TYPE OF NUMERICAL ORDER

GENERIC PART NUMBER

FUNCTION

GROUND

IDENTIFICATION OF CHARGED PARTICLE AS TO ELEMENT TYPE

NCITAIDARNI

IRRAD

NOI

POWER OF 10 RAISED TO THE

KRYPTON

LATCH CROSS SECTION

¥

LDC

TEST LATCHUP RATE IN LATCH/PARTICLE/SQ. CM./CHIP

LOT DATE CODE: DATE OF MANUFACTURE OF FABRICATION LOT FIRST 2 NUMBERS; YEAR LAST 2 NUMBERS; WEEK OF YEAR E.G.; 7912 = 12TH WEEK OF 1979

MANUFACTURING COMPANY OF TEST GROUP

MANUFACTURER

MEAN

MEG

MEV

N/C

Ä

MEAN VALUE OF TEST GROUP FOR MEASURED PARAMETER

POWER OF 10 RAISED TO THE 6

MILLION ELECTRON VOLTS

NEUTRONS

NO CONNECTION

NO ERRORS

(N) FAIL: (N) FAL (N) FAL

Z

PARAMETER WAS NOT WITHIN SPECIFICATION FOR N (A NUMBER) OF DEVICES

NO LATCHUPS

ORIGINAL PAGE OF POOR QUALITY

NUMBER OF DEVICES USED IN COMPUTING CROSS SECTIONS

PARAMETER WAS WITHIN SPECIFICATION FOR N (A NUMBER) DEVICES

(N) PASS. (N) PAS. (N) P

N/SO CM

+OR

NO. OF PARTS

NEUTRONS PER SQUARE CENTIMETER

DXYGEN

OUT OF RANGE IN THE POSITIVE

PROTON

LISTING OF SPECIFIC PARAMETERS MEASURED

FULL PART IDENTIFICATION NUMBER

PART NUMBER PARAMETERS

PART OTY.

RAD TYPE

RADS

PREV

REF. NO.

RUNS

RECORD

REC

NUMBER OF DEVICES IN TEST GROUP

PREVIOUS

ABSORBED DOSE

TYPE OF IRRADIATION SOURCE

RECORD

DATABANK FILE NUMBER FOR DATA SET

CATALOGUE REFERENCE NUMBER OF SOURCE DATA

NUMBER OF INDIVIDUAL TEST RUNS USED IN COMPUTING CROSS SECTIONS FOR A DATA SET (RECORD)

STANDARD DEVIATION VALUE OF TEST GROUP FOR MEASURED PARAMETER

PROCUREMENT SPECIFICATION IDENTIFICATION

SPECIFICATION

TECHNOLOGY

TYP Š

MANUFACTURING PROCESS

TYPICAL

UNKNOWN

LESS THAN X

MORE THAN X

ORIGINAL PAGE FOOR QUALITY

MICROCIRCUIT RADIATION EFFECTS DATABANK

SECTION A: TOTAL DOSE TESTS

SORT: GENERIC PART TYPE; RECORD ID NUMBER

0005
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NUMBER
<u>a</u>
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PART
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NERIC
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GENERIC PART NUMBER	MBER	FUNCTION	NO		TECH	FECHNOLOGY			REF.NO. RECORD	RECORD	
0005		CURRENT	CURRENT AMPLIFIER	FIER	BIPC	BIPOLAR	 	! !	25-1	40	
MANUFACTURER		PART N	PART NUMBER	- :	SPEC	SPECIFICATION	NOI	J	DATA SOURCE	JRCE	
NSC		Гнооо2н	H		! !		1 1 1 1 1 1		AEROJET	f 1 1 1 1	
LDC RAD. TYPE		PART OTY.	BIAS								
7718 CD-60		5	CNK.		; ; ;	! ! ! !	 	! !	1 1 1 1		
CUM.DOSE(RADS):	0			18K	¥	100K	42	420K			
PARAMETERS	MEAN	SD	MEAN	SD	MEAN	SD	MEAN	SD	MEAN	SO	-
VIO	SPASS	i i i	SPASS	! ! !	SPASS	! ! !	SPASS	; ; ; ;		!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!	
VO+(MAX)	SPASS		SPASS		SPASS		SPASS				
IIO	SPASS		SPASS		SPASS		SPASS				
IS	5PASS		SPASS		SPASS		SPASS				
g	5PASS		SPASS		SPASS		SPASS				
ZOUT	SPASS		SPASS		SPASS		SPASS				
REMARKS:							1				

GENER	GENERIC PART NUMBER	ABER	FUNCTION	NO		TECH	TECHNOLOGY		RE	REF.NO. RECORD	RECORD
0005		! ! !	CURRENT	CURRENT AMPLIFIER	IFIER	HYBRID	1VBR ID		80	805-14	580
MANUF!	MANUFACTURER		PART NUMBER	UMBER		SPE(SPECIFICATION	NOI.	D	DATA SUURCE	IRCE
NSC	; } } ! ! ! ! !	: '	LH0002	1	; ; ; ;		! ! ! !	1 1	11	11	
207	RAD, TYPE	PAR	PART QTY.	BIAS							
7921	09-00	i !	10	CNK CNK	1 † 1 1 1	! ! !	[]] } }	 	t 	1 	
CUM. DC	CUM. DOSE(RADS):		C	12.5K	χς.		25K		SOK	-	100K
PARAMETERS	TERS	MEAN		MEAN		MEAN	S.	MEAN	SD	MEAN	SD
-vos 10S	> X	11.50	11.50 5.201		11.85 5.212	11.38	11.38 5,218	11.66	11.66 5.210	11.37	11.37 5.206

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GENERIC PART NUMBER	FUNCTION	NO		TEC	TECHNOLOGY		RE	ď	RECORD
0032	ULTRA	ULTRA FAST OP AMP	AMP	FET		 	1	1035	5370
MANUFACTURER	PART NUMBER	UMBER		SPEC	SPECIFICATION	NOI	Ď	DATA SOURCE	RCE
NATIONAL	LH0032				! - - - -	 	TRE	7. X.	†
LDC RAD, TYPE PA	PART OTY.	BIAS							
09-00	L	V+= 15V	V+=15V; V-=-15V	15V.	 	; ; ; ; ; ;	! ! ! !	f 	# # # # \$
CUM.DOSE(RADS):	0	u :	50K	÷ ;	100K	⊼	200K	ស	500K
PARAMETERS MEAN	SD	MEAN	SD	MEAN	SD	MEAN	SD	MEAN	SD
	2.460 0.329		2.22 0.563	2.320		1.920	1.920 0.585	1.590	
IOS PA -0.6 IB PA -31.	-0.60 7.995 -31.6 45.85	6.240)5 6.240 9.802 6.0 15 -139, 43.33 -3;	6.600	17.09 43.62	43.60	65.36 56.90	-81.8	243.9
	2 0.763	64.92	0.763	64.60	0.969	64.34	0.981	63.84	
sn/x	30	NSC*	NSC*	NSC*	NSC* NSC*	NSC*	NSC*	374	æ :
		NSC*	*OSN	NSC*	NSC*	*SC*	NSC*	343	13
			1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1			!			

YALUE.
PREVIOUS
FROM
CHANGE
SIGNIFICANT
2
11
NSC
*
REMARKS:

GENERI	GENERIC PART NUMBER		FUNCTION	NC .		TECH	TECHNOLOGY		RE	F.NO.	REF.NO. RECORD
0033			AMPLIFIER	IER	! ! ! ! !	BIFET		i † ! !	. 24	24-2	20
MANUFA	MANUFACTURER		PART NUMBER	JMBER		SPEC	SPECIFICATION	NOI	DA	DATA SOURCE	JRCE
NATIONAL	AL	-	LH0033	; ; ; ; ; ;	 	E COM	COMMERCIAL	1	RO	ROCKWELL	[[] []
rpc	RAD. TYPE	PART	PART OTY.	BIAS							
7913	09-00	α	! ! !	V+=15V) =- \ ',	-) 15V,	V+=15V, V-=(-)15V, INPUT=5V	5V	! ! ! !	; ; ;	! ! !
CUM.DO	CUM.DOSE(RADS):			es	30K	¥	100K	ř	300K		
PARAMETERS	TERS	MEAN	SD	MEAN	S	MEAN	i	MEAN	SD	MEAN	SD
D 10S	Z Z	 	; ; ; ;	525	525 .406 -37.5 24.49	0.363	0.363 2.292	12.03	12.03 35.71	; ; ; ;	! ! !
D GAIN	<u>\$</u>			016	0.031	0.006	0.006 0.031	0.006	0.006 0.031		
D GAIN	_			0.005	0.001	0.005	0.002 0.001	0.00	0.001 0.001		

REF.NO, RECORD

TECHNOLOGY

PREC. VOLT REFERENC

FUNCTION

GENERIC PART NUMBER

DATA SOURCE

SPECIFICATION

PART NUMBER

MANUFACTURER PMI

ORI	GINAL	PAGE	iS
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CDC	RAD	TYPE		OTY.	BIAS							
8049	09-00	CD-60		9	UNK.	1	} ! ! !		 	 		1
CUM.DOSE(RADS):	SE(RA	. (sq		0	12.5K	ž.	25K	25K	u,	50K	5	¥00K
PARAMETERS	TERS	· · · · · · · · · · · · · · · · · · ·	MEAN	SD	MEAN	SD	MEAN SD	SD	MEAN	MEAN SD	MEAN SD	SO
LOAD REG VO LINE REG	REG REG	≥>≥	2.083 .0753 5.002 .0061 4.150 .5320		2.133 .0949 5.004 .0061 4.550 .5357	. 0949	2.333 .0931 5.005 .0061 5.533 .5698	.0931 .0061 .5698	2.275 5.009 6.317	. 1099	2.283 .1033 5.010 .0074 7.283 2,125	. 1033

REMARKS:

GENERIC	GENERIC PART NUMBER	MBER	FUNCTION	NC		TECH	FECHNOLOGY		R	-	RECORD
90		!	COMPARATOR	ATOR		BIPOLA	BIPOLAR	1 1 1 1 1 1	08	805-17	610
MANUFACTURER	TURER		PART NUMBER	JMBER		SPEC	SPECIFICATION	ION	DA	DATA SOURCE	3CE
PMI		! : ·	COMP-04	· —	- 	; ; ;) 	: } ! ! ! !	11	11	! ! !
rDC	RAD. TYPE	E PART	PART OTY.	BIAS							
	0900		Ю	URK.			 	1 1 ! ! ! !	 	: ! ! !	1 1 1 1
CUM. DOS	CUM. DOSE (RADS):			12.5K	SK SK	5 V	25K	ເດ	50K	¥	100K
PARAMETERS	ERS	MEAN	OS	MEAN	S	MEAN	SO	MEAN	SD	MEAN	S
-(IB+) * -(IOS) * VOS ISINK	A A S A	28.5 733 021 6.333	28.5 7.937 733 1.173 021 .5198 6.333 .2462	75.5 8.404 1.588 2.169 .0425 .5519 8.550 .3572	75.5 8.404 1.588 2.169 .0425 .5519 8.550 .3572	146.6 8.467 .3450 7.108	146.6 14.10 8.467 6.827 .3450 .5969 7.108 .4100	332.1 37.96 1.774 5.258	45.3 14.43 .7240 .4358	770.0 157.8 6.008 3.226	770.0 121.5 157.8 24.3 6.008 1.039 3.226 .4984

REMARKS: *NEGATIVE OF PARAMETER VALUE WAS USED TO CONSERVE SPACE

PAGE A-

GENERIC PART NUMBER	ART NUN	ABER	FUNCTION	NO	:	TECH	TECHNOLOGY	1	REI	REF.NO.	RECORD	
05	; 	[} !	OP AMP	 	i 	BIPOLAR	LAR		1009	60	5080	
MANUFACTURER	RER		PART NUMBER	UMBER		SPEC	SPECIFICATION	NO	DA.	DATA SOU	SOURC	
PMI	; ; ; ; ;	 	0P-05EJ		; ; ; ; ;				TRW	-		
	RAD. TYPE		PART OTY.	BIAS		-]	1)] 1 1	1	
7937 CO	09-00		i in	V+= 15\	-=- \	15V, VI	V+=15V, V-=-15V, VIN=IV(P-P)1KHZ, RIN=10K,	-Р) 1КНZ	RIN=	10K.		
CUM.DOSE(RADS):	RADS):			:	SOK	10	100K	30	300K	- !	1MEG	
PARAMETERS	٠ دى	MEAN	SD	MEAN	SO	MEAN	SO	MEAN	SD	MEAN	SS	
1	80	109.5	109.5 0.396	108.5	0.526	107.7		106.2	1.761	106.4	1.524	
AVOL 1KHZ AVOL 5KHZ	2 B	41.52	56.48 U.896 41.52 1.246	41.08	41.08 1.266	40.90	40.90 1.371	40.16 1.742	1.742	39.60		
	¥:	0.022	0.022 0.577	-0.38	1.593	-0.77		1.508	5.418	2.617	6.363	
	Z MY	-0.02	0.087	-0.11	-0.11 0.041	-0.12		-0.14	0.044	-0.17		
REMARKS: *RF=100K, NON-INV INPUT TO GND VIA 9.1K, VOUT TO GND VIA 5K.	*RF=10(ON , NO	N-INV I	NPUT TO	GND V	IA 9.1k	ς, νουτ	TO SND	VIA 5	÷		

GENERIC PART NUMBER	ART NUM	BER	FUNCTION	NO.		TECH	TECHNOLOGY		X	REF.NO. RECORD	RECORD
07	† 	f 1 1	OP AMP	(LOW C	OP AMP (LOW OFFSET)	BIPOLAR	LAR		25	I	30
MANUFACTURER	RER		PART NUMBER	UMBER		SPEC	SPECIFICATION	ICN	DA	DATA SOURCE	CE E
IWd] 	(*** (********************************	0P07A	; ; ; ;	†) 	i 1 i i i	: : : : :	AE	AEROJET	
	RAD. TYPE		PART OTY.	BIAS					1	-	1
7733 CO	CD-60	; ; ; ;	4	CNK	i ! ! !	 	 				
CUM. DOSE (RADS):	RADS):	J	•	12.	12.5K	42.5K	ŭ X	¥	133K	25	253K
PARAMETERS	S	MEAN	SD	MEAN	S	MEAN	SD	MEAN	SD	MEAN	SD
VIO	* ; * ;	SPASS	1 (1) 1 (1) 1 (1)	SPASS	; t	SPASS		SPASS		SPASS	
IB NA (CPEC=2 NA)	A C	0.33	0.33 ** 13 * 43	0.64	77. *	2	* 10.3		*11.6	-	*12.7
110	¥Z	0.25		0.58	0.28 **.12	0.88	*	4.5	4.5 **2.9	6.1	**0.7
(SPEC=2	NA)				* .44		-		* 6.5		* 10.3
GBW KH	KHZ	930	930 **840	860	860 **765	695	*	615	**460	665	
			* 1030		096 *		* 785		* 760		* 8 to
REMARKS: ***PARAM, IQ PASSED	***PARA	M. 10	PASSED	ALL DOSES.	SES.	XVW*	NIW** .XVW.				

ORIGINAL PAGE 19 OF POOR QUALITY

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UFACTURER PART NUMBER SPECIFICATION DATA SOUN RAD. TYPE PART QTY. BIAS INSAT PCC .DOSE(RADS): 0 1MEG LIMITS* AMETERS MEAN SD MEAN SD MEAN NA 17.74 11.86 3.0 3.0 NA 17.82 11.96 3.0 NA 17.82 11.96 3.0 NA 6800 .4324 2.8	ن	GENERIC PART NUMBER	PART NUM	BER	FUNCTION	NO		TECH	TECHNOLOGY		~	EF.NO.	REF.NO. RECORD
FART NUMBER SPECIFICATION DATA SOUR OP-O7 INSAT PCC S): O 1MEG LIMITS* MEAN SD MEAN SD MEAN SD MEAN V :9800 28:94 75:0 V 17:74 11:86 3:0 A :6800 .4324 2:8	. (.)	27		 	OPERAT	IONAL /	W.	BIPC	JLAR	1 1 1 1 1	4	01-6	09
OP-O7 TYPE PART QTY. BIAS SO 5 V+=+7.5V, V-=-7.5V (DURING IRRAD. & ELECT. TE ADS): O 1MEG LIMITS* MEAN SD MEAN SD MEAN SD MEAN MY 17.74 11.86 3.0 NA 17.82 11.96 3.0 NA 6800 .4324 2.8	2	MANUFACTI	JRER		PART N	UMBER		SPEC	SIFICAT	NOI	۵	ATA SOL	JRCE
60 5 V+=+7.5V, V-=-7.5V (DURING IRRAD. & ELECT. TE. ADS): 0 1MEG LIMITS* MEAN SD MEAN SD MEAN SD MEAN MV 17.74 11.86 3.0 NA 17.82 11.96 3.0 NA 6800 4324 2.8	. "	I E	 	; ; ;	0P-07	; ; ; ; ; ;	1	1	; ; ;	, L L I	F	NSAT PC)C 860
ADS): 0 1MEG LIMITS* ADS): 0 1MEG LIMITS* MEAN SD MEAN SD MEAN SD MEAN NO NEAN NO 17.74 11.86 3.0 NA 17.82 11.96 3.0 NA 6800 4324 2.8		:	AD. TYPE	PART	OTY.	BIAS							
ADS): O 1MEG LIMITS* MEAN SD MEAN SD MEAN SD MEAN MV .9800 28.94 75.0 NA 17.74 11.86 3.0 NA .6800 .4324 2.8	ر ،		09-60	# 		V+=+7	5V, V-	7.5v	(DURIN	IG IRRAC	. ee	LECT. 1	rests).
MV SD MEAN SD MEAN SD MEAN SD MEAN NA 17.74 11.96 3.0 NA 6800 .4324 2.8	O	OUM. DOSE	(RADS):	0		£ :	EG	LIMIJ	*				
MV9800 28.94 75.0 NA 17.74 11.86 3.0 NA 17.82 11.96 3.0 NA6800 .4324 2.8	4	PARAMETER	SS.	MEAN	SD	MEAN		MEAN	ı	MEAN	SD	MEAN	į
NA 17.82 11.96 NA . 6800 . 4324		20/ 80/	2 2		! ! !	.9800	28.94	•	 	 	 	; ! !	
NA . 6800 . 4324	-, -	-81	Z Z			17.82	11.96						
	-	SO.1	A A			.6800	.4324						

REMARKS: *IN THIS COLUMN ARE THE MANUFACTURER'S SPECIFIED LIMITS,

GENER	GENERIC PART NUMBER	NUMBER	FUNCTION	NO.		TECH	FECHNOLOGY		Æ	Ġ.	RECORD
0.] 	OP AMP	; ; ; ; ; ;	 	BIPU	BIPULAR	: ! ! ! !	10	1010	2090
MANUF	MANUFACTURER		PART NUMBER	JMBER		SPEC	SPECIFICATION	NOI	DA	DATA SOURCE	RCE
P. W.		1 	0P-07E		 	; i i	i 	; ; ; ;	TRW	TRW.	
TDC	RAD. TYPE		PART OTY.	BIAS							
7951	09-00	 	ر ا ا	V+= 15\	V+=15V, V-=-15V,	15V. VI	VIN=IV(P-P)1KHZ, RIN=10K, *	-P) 1KH2	Z. RIN=	40K.	1 1 3 1 1
CUM.D	CUM.DOSE(RADS):		0	u ,	50K	7	100K	30	300K	-	1MEG
PARAM	PARAMETERS	MEAN	SD	MEAN	SD	MEAN	SD	MEAN	SD	MEAN	SD
AVOL		111.1	0.483	108.9	1.703	106.9	3.384	104.0	5.340	103.2	3.237
AVOL	IKHZ DB	57,36	2.046	55.50	4.432	54.96	1.050	54.16	0.723	54.22	0.804
IOS		-0.54	0.702	-0.99		1.80	3, 198	38.36	-2.42 6.917	38.68 -7.59	-7.59 14.98
18	Ž	-0.20	0.971	8.486	w			72.92	83.96	119.3	144.2
VOS	Μ×	0.022		0.001	0.028	-0.02	0.062	-0.02	0.084	-0.11	0.198

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CONTINUED ON RECORD 5342.

REMARKS: CONTINUATION FROM RECORD 5340.

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9.343 .6030 9.036

.0047 .0384 .0051 .0370

9.391 .6003 9.085

.0043

9.740 9.740 9.586 9.586 6173 9.278

> VOUTC(86 HI)V VOUT(85 HI) V VOUTC(85 HI)V VOUT(84 HI) V

PARAMETERS.

VOUTC(B4 HI)V

S

MEAN

MEAN

MEAN

MEAN

MEAN

0

CUM. DOSE (RADS):

500K

300K

.0080

9.479

9.536 2933

> .0298 .0030 .0287 .0047

. 1502 9.620 .3010 9.472

GENERIC PART NUMBER	FUNCTION	TECHNOLOGY		<u>-</u>	ECORD
80	D/A CONVERTER	BIPOLAR	! f f f ! ! !	1032	5340
MANUFACTURER	PART NUMBER	SPECIFICATION	201	DATA SOURCE	CE
FAIRCHILD	UA0801		1	TRW	‡ ; ;
LDC RAD. TYPE PAI	PART OTY. BIAS				
7818 CD-60	16 SEE RECO	SEE RECORD 5 344 FOR BIAS INFORMATION	INFORMATIO	! ! ! ! ! !	i i i i
CUM. DOSE (RADS):	O 100K	300K	500K		:
PARAMETERS MEAN	SD MEAN	•	MEAN SD	MEAN	SD
≥> ¥	2.119 .6867 .0209 9.764	. 4681 6.913 5.823 . 0288 9.669 . 0469	21.15 14.68	68 68	
	2.352	36.29	44.60 9.784 9 578 0505	84 55	
	3.734 70.87 .0272 9.698		73.55 8.701 9.558 .0437	37	
** REMARKS: *VOUT ON 5K@PIN4; VOUTC=COMPL(VOUT) @PIN2; ()=INPUT. **CONT. ON 5341.	@PIN4; VOUTC=COMP	L(VOUT) @PIN2; ()	* .TUPUT. *	*CONT. ON	5341.

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GENERIC PART NUMBER	FUNCTION		REF.NO. RECORD	RECORD	
80	D/A CONVERTER	BIPOLAR	1032	5341	
MANUFACTURER		SPECIFICATION			
FAIRCHILD	UAOBO1	F T T T T T T T T T T T T T T T T T T T	† 	 	
LDC RAD. TYPE PART QTY.		BIAS		# # # #	
	SEE RECORD 5344.	144.			

GENERIC PART NUMBER	CTION	CHNOLOGY
90	A CONVERTER	IPOLAR

GENERIC PART NUMBER		TECHNOLOGY		RECORD
08	D/A CONVERTER	BIPOLAR	1032	5342
MANUFACTURER	PART NUMBER	SPECIFICATION		URCE
FAIRCHILD	UA0801]
# # # # # # # # # # # # # # # # # # #		SEE RECORD 5344.	f f f f f f f f	; ; ; ; ;

CUM.DOSE(RADS):	0		₽	100k	<u>ع</u>	300K	20	500K		
PARAMETERS	MEAN	S	MEAN	SD	MEAN	S	MEAN	SD	MEAN	SD
VOUT(B3 HI) V	1.239	.0046	1.223	900.	1.212	.007	1.213	ı	! ! !	i i i
VOUTC(B3 HI)V	8.658	0.0	8.553	.024	8.475	.0344	8.430	•		
VOUT(B2 HI) V	2.484	.0068	2.458	0077	2.441	6800	2.437	9		
VOUTC(B2 HI)V	7.412	.0157	7.318	.0221	7.251	.0327	7.206	•		
VOUT(B1 HI) V	4.984	.0107	4.942	.0141	4.892	.0446	4.899	•		
VOUTC(B1 HI)V	4.913	.0121	4.836	.0167	4.785	.0410	4.775	•		

REMARKS: CONTINUATION FROM RECORD 5341. CONTINUED ON RECORD 5343.

GENERI	GENERIC PART NUMBER	NCM	SER	FUNCTION	NO	į		TECHNOLOGY		æ	F. NO.	REF.NO. RECORD
80	 	; ; ;	i (2	D/A CONVER	D/A CONVERTER	 	_	BIPOLAR	 	<u> </u>	1032	5343
MANUFA	MANUFACTURER			PART NUMBER	UMBER		SPEC	SPECIFICATION	NOI	DA	DATA SOURCE	RCE
FAIRCHILD	11.0] 	; ! !	UA0801	1 1 1 1 1 1	 	! ! !	1 3 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	1 f 1 1 1 1	! · · · · · · · · · · · · · · · · · · ·	1 1 1 1 1 1 1 1 1	! ! ! !
רםכ	RAD.	ΓΥΡΕ	PART	RAD. TYPE PART GTY.	-							
! ! !	1 1 1 1 1 1 1 1 1 1	1 .		1 	SEERE	SEE RECORD 5344	344.	i ; i i	! ! ! ! !	1 	 	
CUM. DO	CUM.DOSE(RADS):		0		9	100K	9	300K	50	500K		
PARAMETERS	TERS		MEAN SD	WEAN SD	MEAN SD	SD	MEAN SD	SD	MEAN SD	SD	MEAN	SO

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CUM. DOSE (RADS):	RADS):		•	¥	100k	ĕ	300K	ຂັ	500K		
PARAMETERS		MEAN	AN SD	MEAN	MEAN SD	MEAN SD	SD	MEAN	SD	MEAN	i <u>N</u>
vout(ES*)	>	9.895	9.895 .0223		.0292	9.672	.0384	9.624		1	1
VOUTC(FS)	X	2.861	2.496	1.406 2	2.853	5.898	4.572	8.921	5.571		
I(FS)	_	01	0.00		.0048	9090	.0331	.0613			
VREF	≥	54.60	21.16		13.17	63,24	13.38	52.86			
TPHL	SN	59.71	1.660		2.177	64.61	2.773	67.14			
TPLH	S	63.98	7.855		1.618	62.91	2.088	62.53			

CONTINUED ON RECORD 5344 (BIAS). REMARKS: CONT FROM REC 5342. *FS=FULL SCALE.

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GENERIC PART NUMBER		FUNCTION	N.		TECHI	TECHNOLOGY	>-			_	RECORD
80	!	D/A CONVERTER	VERTER		BIPOLAR	BIPOLAR	 	t 	1032		5344
MANUFACTURER		PART NUMBER	JMBER		SPECIF	IFICA	SPECIFICATION	! ! !	DATA	DATA SOURCE	CE
FAIRCHILD	 	UA0801									
LDC RAD. TYPE PART OTY.	PART	OTY.	BIAS						i	! ! !	
		í ! !	PINS:	PINS: 13@15V; 14 VIA 5K TD 15V; 3@-15V; 15 VIA 5K*	14 VI	A 5K	TO 15V	96	15V;	15 VI	A 5K*
CUM.DOSE(RADS):	0		1			1		1 1 1 1 1 1 1			
PARAMETERS	MEAN SD	S	MEAN SD	SD	MEAN	SD	MEAN	OS I	_	MEAN	SD
1111111111111	1111	1		1 1 1	i 						

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> *TO -15V; 5-12 @ 5V; 2.4 VIA 1K TO 5V; 1 @ GND. REMARKS: CONT FROM REC 5343.

GENERIC PART NUMBER	ZT NUM		FUNCTION	NO		TECHN	TECHNOLOGY	 	ē i	REF, NO. RECORD	RECORD	
082	 	_ ! ! !	DUAL FI	DUAL FET OP AMP	dw.	BIFET	· L _		şer.	-146	ţ.	
MANUFACTURER	S.	-	PART NUMBER	UMBER		SPEC	SPECIFICATION	NOI	ا <u>۵</u>	DATA SOURCE) 	
EXAR INTEGRATED	RATED	! !	XRO82		 - - - -				5	JPL .		
LDC RAD	RAD. TYPE		PART OTY.	BIAS			; ; ;	; ; ; ;	1	; ; ; ; ;	 	
8024 2.5	2.5MEV EL	1 1 1		VCC= 15	VCC=15V, VEE= -15V	- 15V						
CUM. DOSE (RADS):	ADS):	0		(7)	30K	150	150K	90	300K	600K	X !	
PARAMETERS		MEAN	SD	MEAN	SO	MEAN	SD	MEAN	SD	MEAN	SD	
V0S	ΣZ	. 1290	! ! !	. 1330	!	. 1280		. 1280		. 1280		
IB +AVOL	NA DB	. 1270		. 1270 FAIL		. 1270		. 1400		1430		
-AVOL	90	108.0		FAIL								

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RIC PART	一 一 一 中 中 中 中
ERIC PART	· · · · · · · · · · · · · · · · · · ·
NERIC PART	· · · · · · · · · · · · · · · · · · ·
ENERIC PART NUMBER: 09	· · · · · · · · · · · · · · · · · · ·

GENERI	GENERIC PART NUMBER	MBER	FUNCTION	LION		TEC	rechnology		25	REF.NO. RECORD	RECORD
60			QUAD	QUAD OP ARP	 	BIPOLA	BIPOLAR	! ! !)8 	805-18	620
MANUFA	MANUFACTURER		PART	PART NUMBER		SPE	SPECIFICATION	NOI	۵	DATA SOURCE	RCE
PMI	 	 	0P09		 	!	1	; ; ; ; ;	: I	1	1
LDC	RAD. TYPE		PART OTY.	BIAS							
8026	09-00	! ! !	4	S S	 				 	!	1
CUM. DO	CUM.DOSE(RADS):			12.5K	. SK	•••	25K	4,	50K	¥	±00K
PARAMETERS	TERS	MEAN	SD	MEAN	SD	MEAN	SD	MEAN	SD	MEAN	SO
AOL	DB	107.4	1.090		1.586	97.9	8.591	6.89	7 933	•	11 22
* +8I	Y N	88.24	11.17	_	134.0 27.54	140.0	140.0 42.78	141.8	141.8 55.3		145 9 65 4
VOS	≩ :	.0713	. 2354		. 2505	. 169	.2797	.330	. 4368		8704
SOI	ď Z	1.956	. 8516	1.05	3.471	.362	4.771	-, 394	6.268	ľ	_

REMARKS: *IHE VALUES SHOWN ARE THE ABSOLUTE VALUES (ACTUAL VALUES ALL NEGATIVE)

GENERIC PART NUMBER	FUNCTION	TECHNOLOGY	œ	REF.NO. RECORD
100	10-BIT D/A CONVERT	TTL	N	24-44 1220
MANUFACTURER	PART NUMBER	SPECIFICATION		DATA SOURCE
II & d	AIMDAC100	COMMERCIAL	1 02	ROCKWELL
LDC RAD TYPE PART OTY.		•		
09-00		V+=15V, V-=-15V, BIT(2,4,6,8,10)=5V, REST BITS GND	3, 10)=5V,	REST BITS GND
CUM. DOSE(RANS):	100K	200K	300K	
PARAMETERS MEAN	SD MEAN SD	. –	MEAN SD	MEAN SD
D V/O(F/SET)V	0.004	017 0.005	016 0.007	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1

REMARKS:

1-144

DATA SOURCE

SPECIFICATION

PART NUMBER

MANUFACTURER

JP.

REF.NO. RECORD

TECHNOLOGY

GENERIC PART NUMBER

1001

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!		!	!	1			
1 1 1		ĒĜ	S				
		2.5 WEG	MEAN SD	17.5	560	11.0	23.2
 		750K	SD				
		750K	MEAN SD	10.5	460	9.1	13.5
1		250K	SD				
	-5V.	250K	MEAN SD	12.5	305	6.4	о Т
	/CC=5V, VEE=-5V.	75K	SD				
BIAS	VCC=5V	75K	MEAN SD	11.0	165	4.6	3.5
RAD. TYPE PART QTY. BIAS	7	0	SD				
PART		0	MEAN SD	10.1	69	3. 1	4.35
TYPE		S):	_	! ≰	≰	⋖	≥
RAD. TYPE	09-00	SE (RAD	TERS	× (×	2 *(XV	→ * (×	AX)* N
TDC	7802C C0-60	CUM.DOSE(RADS):	PARA.METERS	ICC(MAX) * MA	IREF (MAX) * NA	IIH(MAX) * UA	DVCS(MAX)* MV

REMARKS: * MEAN = WORST-CASE PARAMETER VALUE (NDT AVERAGE), BIAS SAME AS ABOVE.

101 MANUFACTURER		101 010		,					
MANUFACTURER	OP AMP	1 1 1 1 1 1 1 1		ВІРС	BIPOLAR		 	1-39	160
	PART NUMBER	UMBER		SPEC	SPECIFICATION	TON	DA	DATA SOURCE	CE
NATIONAL SEMI	LM101	; ; ; ; ;	i i i i	; 		: 	J PL		! ! !
	PART QTY.	BIAS							
UNK CO-60	() () () () ()	CNK.	i i i	;]] 			i i i: i:	
CUM. DOSE (RADS):	0	75	75K	25	250K	7.	750K	8	2.5M
TERS	MEAN SD	MEAN	SD	MEAN	SD	MEAN	SD	MEAN	SD
DVOS MV	 	2, _	. 1555	3.55	4039	1.12	. 7390	2.2	1, 150
DIB NA		ស	1.132	25.	.3150	20.	6.260	150.	25.92
+GAIN DB	115.	106.5 5	5.586	103 104	7.596	94.	4.772 6.609	84.5	3.853

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GENERI	GENERIC PART NUMBER	3ER	FUNCTION	NO	1	TECH	TECHNOLOGY		Ď.	REF.NO.	-	
101			OP AMP			BIPOLAR	IPOLAR	:	-	1-40	170	
MANUFA	MANUFACTURER		PART NUMBER	IUMBER		SPEC	SPECIFICATION	NOI	۵	DATA SOURCE	JRCE	
NATION	NATIONAL SEMI.		LM101	 	! ! ! !	! ! !	 		」う こっし	JPL		
r DC	RAD. TYPE		PART QTY.	BIAS								
CNK CNK	09-00		ε	CNK.	 	1 1 1 1 1	f 	; } } } { { { { { { { { { { { { { { { { { { {	 	; 	 	
CUM. DO	CUM.DOSE(RADS):	J		1-	75K	25	250K	7.5	750K	2	2.5MEG	
PARAMETERS		MEAN	S	MEAN	S	MEAN	SD	MEAN	SD	MEAN	SD	
222		123.0		.05 .4 .4 .10.7	.0100 .8640 .2093 1.535	1.06 26: 109.2	. 15 .0351 1.06 2.222 26: 1.179 09:2 .8300 09:5 2.554	.35 1.36 60. 97.6 98.5	.35 .0849 1,36 4.399 60. 3,399 97.6 9819 98.5 1.417	•	.83 .1071 .03 8.695 122, 3.648 90.8 1.648	

REMARKS:

MANUFACTURER NATIONAL SEMI. L LDC RAD. TYPE PART	OP AMP	1	!!!!!					
YPE PART			BIPOLAR	LAR	 	7 +	1-41	180
	PART NUMBER		SPEC	SPECIFICATION	NOI	DA	DATA SOURCE	E C
RAD. TYPE	LM 101	‡ ! ! !	<u> </u>	; ; ; ;	 	- JPL	 	! 1
	PART OTY. BIAS							
UNK. 2.5MEV EL 4	4 UNK.	! ! ! !] } ! ! !	f 	 	; ! ! !	[1 1 1 1
CUM.DOSE(RADS): 0		75K	15	150K	300K	¥	X 00%	¥
PARAMETERS MEAN	SD MEAN	SD	MEAN	SD	MEAN	SD	MEAN	SD
DVOS MV DIOS NA DIB NA +GAIN DB -GAIN DB	. 5 8 8 117. 117.2 115.4	.5 .2961 8. 1.181 177.2 7.122 115.4 4.059	. 02 . 2351 1.3 . 7837 15.5 2. 180 106. 1.348 125. 4.659	. 2351 . 7837 2. 180 1. 348 4. 659	. 148 1.8 30.5	.2883 2.925 3.560 FAIL	.038 .4727 5.1 3.878 54.5 7.615 109.3 2.251 FAIL	3 .4727 1 3.878 5 7.615 8 2.251 FAIL

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GENER	GENERIC PART NUMBER	MBER	FUNCTION	NO		TECH	TECHNOLOGY		RE	9 2	_
1 01	i i i i i	 	OP AMP		 	BIPOLAR	LAR	; 1 1 [1 1	31		1130
MANUF	MANUFACTURER		PART NUMBER	IUMBER		SPEC	SPECIFICATION	NOI	DA	DATA SOURCE	JRCE
AMD	 	 	AMD 101A	A	[1	 	 	IRT	IRT	; ; ; ;
roc	RAD. TYPE	E PART	PART QTY.	BIAS							
UNK.	09-00	SA	; 关	V+= 15V	V+=15V, V-=GND, VIN-=7.5V, VIN+=7.1V, VO 4K TO GND	NIA C	-=7.5V	· VIN+	7.10.	V0 4K	TO GND
CUM. DC	CUM.DOSE(RADS):	0		Ō	100K	300K	¥	50	500K		Ξ
PARAMETERS	ETERS	MEAN	OS .	MEAN	SD	MEAN	200	MEAN	SD	MEAN	SS
TI 0	AM AM	2.110	 	0.05		. 16	 	22	\$ 	32	
20		1.05		0.03		0. 12		0.21		0.37	
0 18 0 18		4.05		0.56 9.5		0.86 29.4		1.07		54.1	
O A	08	107		1.0		5.0		2.0		13.0	•
REMARKS:	(S:										

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GENERIC	GENERIC PART NUMBER	3ER	FUNCTION	N O		TEC	TECHNOLOGY		ž	RFF NO. RECORD	PECORE
101		 	OP AMP	; 1 1 1 1 1		BIE	BIPOLAR	† 	31		1140
MANUFACTURER	URER		PART NUMBER	UMBER		SPE	SPECIFICATION	NOI	Õ	DATA SOURCE	3CE
INTERSIL			LM101AH	I	 	į	! ! ! ! !	 	111111111111111111111111111111111111111	IRT	; ! !
	RAD. TYPE	PART	PART OTY.	BIAS							
UNK.	09-00	 	60	V+= 15V	. V-=G	ND, C	V+=15V, V-=GND, VIN-=7.5V, VIN+=7.1V, VO 4K TO 6ND	VIN+	7.1V.	V0 4K	LO GNE
CUM.DOSE(RADS):	(RADS):			(7)	35K		100K	90	300K		Σ
PARAMETERS		MEAN	S	MEAN	SO	MEAN	SD	MEAN	SD	MEAN	S
D VOS	•	1 · · · · · · · · · · · · · · · · · · ·	 	032 .0145	.0145	- 188	-, 188 , 1830	347	.2620	748	748 .7330
0 10S	Ϋ́			043	.2450	465	.465 .6400	846	1.290	-3.17	-3.17 3.920
D II	A A			60.9	-	12.30	12.30 3.000	31.00 5.000	5.000	83.50	83.50 11.56
D AV	08			3.260	~	2.360	2.360 5.210	7.43 8.54	8.54	-4.51	-4.51 6.860

	I ECHNOLOGY	
FUNCTION		1 11/11/11/11/11/11/11
ENERIC PART NUMBER		

: : : : : : : : : : : : : : : : : : :	我是我的,我们也是我们的,我们也是我们的,我们们的,我们们的,我们们的,我们们的,我们们的,我们们的,我们们的,			*******
GENERIC PART NUMBER	FUNCTION	TECHNOLOGY	-	REF.NO. RECORD
• 0	OP AMP	BIPOLAR		31 1150
MANUFACTURER	PART NUMBER	SPECIFICATION		DATA SOURCE
ADVANCED MICRO	LM101AH		# ! ! !	IRT CORP
LDC RAD, TYPE PAR	PART OTY. BIAS			
7538 CD-60 5	V+=15V, V-=	V+=15V, V-=GND, VIN-=7.5V, VIN+=7.1V, VO 4K TD GND	IN+=7.1V.	VO 4K TO GND
:(১ন্নদ	13K	52K	170K	360K
	SD MEAN SD	MEAN SD ME	MEAN SD	MEAN SD
MV 0.700 NA 1.000 NA 44.00 MA 2.000 KHZ 1241	0.700 1.100 48.00 2.000	ı	0.600 5.2 61.00	0.300 9.5 70.00 1.900

REMARKS:

GENERIC PART NUMBER	ш.	NOI	TECHNOLOGY	ASO.	
-				MET.NU. RECORD	JRD
	OP-AMP	<u>a</u> .	BIPOLAR	!	1370
MANUFACTURER	PART	PART NUMBER	SPECIFICATION	TOGING ATAC	
FAIRCHILD	LM101AH	AH	COMMERCIAL	ROCKWELL	1
LDC RAD. TYPE	PART OTY.	_			
8008A CD-60	80	V+=15V, V-=-15	V+=15V, V-=-15V, NONINV-INPUT=5V, INV-IN=0UT	3V, INV-IN=OUT	ŀ
CUM.DOSE(RADS):	0	30K	100K 3	300K	
N A N	MEAN SD	MEAN SD MI	MEAN SD MEAN -5.39 1.372 -83.4 -7.33 6.872 -269.	MEAN SD MEAN SD	<u> </u>
				56.50	

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GENERIC PART NUMBER		FUNCTION	NO		TEC	FECHNOLUGY		ã	EF.NO.	REF.NO. RECORD	
101		OP-AMP			BIP	BIPOLAR	i 1 1 1 1		24-12	1380	
MANUFACTURER		PART NUMBER	UMBER		SPE	SPECIFICATION	ION	۵	DATA SOURCE	JRCE	
NATIONAL	. - .	LM101AH	 	; ; ; ;	COM	COMMERCIAL		Z	ROCKWELL		
LDC RAD. TYPE		PART OTY.	BIAS								
8022 CD-60	4		V+= 15	/, V-=-	V+=15V, V-=-15V, NONINV-INPUT=5V, INV-IN=OUT	DNINV-INPUT=5V	VPUT=5\	, INV	IN=0U		
CUM.DOSE(RADS):	0			30K	¥	100K	9	300K			
PARAMETERS	MEAN	SD	MEAN		MEAN SD	SD	MEAN	SD	MEAN	SO	
D VOS MV D IIB NA			13.00	.001 0.008	269 0.040 32.83 3.599	0.040	911	911 .2220 78.28 11.38	1		

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GENERIC PART NUMBER		ION	TECHNOLOGY		REF.NO. RECORD	RECORD
101	OP-AMP		BIPOLAR	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	24-11	1390
MANUFACTURER	PART	PART NUMBER	SPECIFICATION	NOI	DATA SOURCE	JRCE
NATIONAL	LM101AH		COMMERCIAL		ROCKWELL	
LDC RAD. TYPE	_					
8023 CD-60	4	V+=15V, V-=-	V+=15V, V-=-15V, NONINV-INPUT=5V, INV-IN=OUT	NPUT=5V, IN	IV-IN=DU	
CUM. DOSE(RADS):	0	30K	100K	300K		
PARAMETERS	MEAN SD	MEAN SD	MEAN SD	MEAN SD	MEAN	SD
D VOS MV D IOS NA D IIB NA		012 0.019 0.004 0.110 14.00 0.294	064 0.009 0.222 0.278 28.55 0.532	402 0.050 0.603 1.241 54.93 2.998	10+0	} 1: 1: 1: 1:

REF.NO. RECORD 24-10 1400

TECHNOLOGY

FUNCTION

GENERIC PART NUMBER

OP-AMP

BIPOLAR

DATA SOURCE

SPECIFICATION

PART NUMBER

MANUFACTURER

NATIONAL

LM101AH

RAD. TYPE PART GTY.

LDC

09-00

8016

COMMERCIAL

RDCKWELL

V+=15V, V-=-15V, NONINV-INPUT=5V, INV-IN=0UT

OR	IGINAL	PAGE	15
OF	POOR	QUALI	ΤY

PAGE A- 15

-.068 0.030 -.662 0.438 29.00 1.016

-.025 0.017 -.059 0.210 14.15 0.057

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D VOS D 10S D 11B

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PARAMETERS

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CUM. DOSE (RADS):

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GENERIC PART NUMBER		NO	TECHNOLOGY	OLOGY	REF. NO	REF.NO. RECORD
101	OP-AMP		BIPOLAR	AR.	24-9	1410
MANUFACTURER	PART NUMBER.	JMBER.	SPECIF	SPECIFICATION	DATA SHIBSE	a Jaile
GENERAL ELECTRIC	LM101CHIP	4IP	COMMERCIAL	SCIAL	ROCKWELL	1
LDC RAD. TYPE		BIAS				
UNK. CD-60	60	V+=15V, V-=-15V, NONINV-INPUT=5V, INV-IN=0UT	15V, NONI	NV-INPUT=5V	INV-IN=OU	
CUM. DOSE(RADS):	0	30K	100K	300E	×	
PARAMETERS MEAN	QS N		MEANS	SD MEAN SD	SD MEAN	SD
D VOS MV D IOS NA D IIB NA		001 0.022 168 0.477 12.09 1.153	006 0.137 343 1.527 37.99 2.665	137028 0,427 527 0.590 2,945 665 90.80 4.353		1

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GENERI	GENERIC PART NUMBER	BER	FUNCTION	NC.		TECH	TECHNOLOGY		RE	F.ND.	REF.ND. RECORD
101	F 1 1 1 1 1 1 1 1	, ! !	OP-AMP	1 1 1 1 1 1	1 1 1 1 5	BIPOLAR	BIPOLAR	; ; ; ;	24	24-8	1420
MANUFACTURER	CTURER		PART NUMBER	UMBER		SPEC	SPECIFICATION	NOI	Q	DATA SOURCE	IRCE
NATIONAL	AL	: : :	LM101AF		† 	COM	COMMERCIAL	 		ROCKWELL	
Tpc	RAD. TYPE PART OTY.	PART	. OTV.	_							
8011	09-00	!	8	V+= 15V	V = -	V+=15V, V-=-15V, NONINV-INPUT=5V, INV-IN=OUT	SV, NONINV-INPUT=5V, IN	NPUT=5\	, INV	N=0I	
CUM. DO	CUM. DOSE(RADS):			Ç.	30K	5	100K	3	300K		
PARAMETERS	TERS	MEAN	SD	MEAN	SD	MEAN	SD	MEAN SD	SD	MEAN	SO
0 V0S 0 10S 0 11B	Z Z Z			004 212 15.90		222 794 49. 20			819 0.489 -2.58 2.112 115.3 21.46		

REMARKS:

GENERI	GENERIC PART NUMBER	_	NO		TECH	TECHNOLOGY		RE	REF.NO. RECORD	RECORD
101		OP-AMP	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	 	BIPC	BIPOLAR	; ! ! !	24	24-7	1430
MANUFA	MANUFACTURER	PART NUMBER	UMBER		SPEC	SPECIFICATION	ION	DA	DATA SOURCE	℃ E
FAIRCHILD	ILA	LM101AF		 	COM	COMMERCIAL	; 1 7 1	RO	ROCKWELL	†
LDC	RAD. TYPE		BIAS						1	
8008	09-00	4	V+=15V	. V	15V, NC	NINV-I	NPUT=5/	V+=15V, V-=-15V, NONINV-INPUT=5V, INV-IN=OUT	IN=OLT	! ! !
CUM.DO	CUM.DOSE(RADS):	0	က	30K	¥	100K	ř	300K		1
PARAMETERS	TERS	MEAN SD	MEAN	SD	MEAN	SD	MEAN	SD	MEAN	SD
D VOS D 10S D 11B	> V V			0.139 0.764 8.256	1.707	T 17	2.508 60.58	444 0.849 2.508 3.626 60.58 26.02	! 	

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GENERIC	GENERIC PART NUMBER	MBER	FUNCTION	NO		TECH	TECHNOLOGY		RE	F.NO.	REF.NO. RECORD
101			OP-AMP	 	 	BIP	BIPOLAR	 	24	24-6	1440
MANUFA	MANUFACTURER		PART NUMBER	UMBER		SPE	SPECIFICATION	NOI	DA	DATA SOURCE	RCE
FAIRCHILD	11 CD	† 	LM101AF		1 	COM	COMMERCIAL	 	8	ROCKWELL	
TDC	RAD. TYPE PART QTY.	E PART	0ТҰ.	BIAS							
8002	09-00	; ; ; ;	4	V+=15V	>	15V. N	Z-ANIÑO	NPUT=5	=-15V, NOWINV-INPUT=5V, INV-IN=0	IN=OI	! ! ! !
CUM. DC	CUM. DOSE (RADS):			30K	30K	¥	100K	ř	300K		
PARAMETERS	TERS	MEAN	as	MEAN	SD	MEAN SD	SD	MEAN		MEAN	SO
D VOS D 10S	₩ NA			0.011	0.011 0.065	-1.09 4.435	-1.09 1.138 4.435 10.38	-7.41	-7.41 7.080 -6.80 24.01	l. - 	<u> </u>
0 118				43.48	43.48 10.49	112.9	33.05	202.4	86.42		

REMARKS:

FACTURER PART NUMBER SPECIFICATION DATA SOURCE RAD. TYPE PART QTV. BIAS CO-60 5 V+=15V, V-=-15V, VIN=1V(P-P) 1KHZ, RIN=1OK, RF= CO-60 5 V+=15V, V-=-15V, VIN=1V(P-P) 1KHZ, RIN=1OK, RF= HETERS MEAN SD MEAN SD MEAN SD MEAN SD MEAN 1HZ DB 111.9 4.61 112.7 4.77 112.8 4.49 113.3 2.50 114.3 1KHZ DB 60.34 1.19 60.16 1.20 59.94 1.20 59.44 1.12 58.28 5KHZ DB 46.10 1.21 46.00 1.27 45.86 1.25 45.14 1.18 43.98 NA 332 0.779 0.307 0.817 0.338 0.804 0.258 0.820 -0.02 1 NA 38.45 6.06 44.45 6.55 47.95 6.92 56.35 7.99 71.97 NA 38.45 6.06 44.45 6.55 47.95 6.92 56.35 7.99 71.97 NA 0.062 0.109 0.102 0.090 0.134 0.102 0.228 0.267 0.453 0	GENER	GENERIC PART NUMBER	MBER	FUNCTION	NO		TEC	<i>TECHNOLOGY</i>		RE	REF.NO. RECORD	RECORD
RAD. TYPE PART QTY. BIAS SPECIFICATION DATA SOURCE CO-60 5 V+=15V, V-=-15V, VIN=1V(P-P)1KHZ, RIN=1OK, RF= THE THE	101			OP AMP	 	 	BIP	JLAR	1 1 1 1 1 5	<u> </u>	004	5030
RAD. TYPE PART QTY. BIAS CO-60 5 V+=15V, V-=-15V, VIN=1V(P-P) 1KHZ, RIN=1OK, RF= CO-60 5 V+=15V, V-=-15V, VIN=1V(P-P) 1KHZ, RIN=1OK, RF= DOSE(RADS): 0 50K 100K 300K 1MEAN HETERS MEAN SD MEAN SD MEAN SD MEAN 1HZ DB 60.34 1.19 60.16 1.20 59.94 1.20 59.44 1.12 58.28 5KHZ DB 60.34 1.19 60.16 1.20 59.94 1.20 59.44 1.12 58.28 5KHZ DB 46.10 1.21 46.00 1.27 45.86 1.25 45.14 1.18 43.98 NA 0.332 0.779 0.307 0.817 0.338 0.804 0.258 0.820 -0.021 NA 38.45 6.06 44.45 6.55 47.95 6.92 56.35 7.99 71.97 NA 0.062 0.109 0.102 0.090 0.134 0.102 0.228 0.267 0.453 0.	MANUF/	ACTURER		PART N	UMBER		SPE	SIFICAT	NOI	Õ	TA SOU	RCE
TYPE PART QTY. BIAS CD-60 5	AMD		1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	LM101A	: : :	; ; ; ;	i 		; ; ; ; ;	T. T.	3	, 1 1 1
CD-60 5 V+=15V, V-=-15V, VIN=1V(P-P)1KHZ, RIN=1OK, RF= DDSE(RADS): 0 50K 100K 300K 1ME HETERS MEAN SD MEAN SD MEAN SD MEAN SD MEAN HHZ DB 11.9 4.61 112.7 4.77 112.8 4.49 113.3 2.50 114.3 HKHZ DB 60.34 1.19 60.16 1.20 59.94 1.20 59.44 1.12 58.28 5KHZ DB 60.379 0.307 0.817 0.338 0.804 0.258 0.820 -0.02 1 NA 38.45 6.06 4.45 6.55 47.35 6.92 56.35 7.97 NV 0.062 0.109 0.102 0.090 0.134 0.102 0.228 0.267 0.453 C	207	RAD. TYP		r otv.	BIAS							
MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN DB MEAN SD MEAN DB MEAN SD MEAN SD MEAN DB MEAN SD MEAN SD MEAN DB MEAN SD MEAN SD MEAN DB 60.34 1.12 59.94 1.20 59.94 1.20 59.44 1.12 58.28 DB 46.10 1.21 46.00 1.27 45.86 1.25 45.14 1.18 43.98 NA 0.332 0.770 0.817 0.338 0.804 0.258 0.820 -0.02 1 NA 38.45 6.06 44.45 6.55 47.95 6.92 56.35 7.99 71.97 MV 0.062 0.109 0.102 0.090 0.134 0.102 0.228 0.267 0.453 0.	7945	09-00	! ! ! !	រប	V+=15V	, V==-	15V, V	IN=1V(P	-P) 1KH	Z, RIN	10K. 2	F= 100
MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN MEAN MEAN SD MEAN MEAN MEAN SD MEAN SD MEAN MEAN MEAN MEAN MEAN SD MEAN MEAN SD MEAN MEAN MEAN SD MEAN MEAN MEAN MEAN MEAN SD MEAN M	CUM. DC	SE(RADS):		0		Š	¥	OK OK	ĕ) XOK	-	MEG
HZ DB 111.9 4.61 112.7 4.77 112.8 4.49 113.3 2.50 114.3 1KHZ DB 60.34 1.19 60.16 1.20 59.94 1.20 59.44 1.12 58.28 5KHZ DB 46.10 1.21 46.00 1.27 45.86 1.25 45.14 1.18 43.98 NA 0.332 0.779 0.307 0.817 0.389 0.804 0.258 0.820 -0.02 NA 38.45 6.06 44.45 6.55 47.95 6.92 56.35 7.99 71.97 NV 0.062 0.109 0.102 0.090 0.134 0.102 0.228 0.267 0.453 0.	PARAME	ETERS	MEAN	SO	MEAN	S	MEAN	S	MEAN	S	MEAN	SD
TKHZ DB 60.34 1.19 60.16 1.20 59.94 1.20 59.44 1.12 58.28 5KHZ DB 46.10 1.21 46.00 1.27 45.86 1.25 45.14 1.18 43.98 NA 0.332 0.779 0.307 0.817 0.338 0.804 0.258 0.825 0.62 1.02 1 NA 38.45 6.06 44.45 6.55 7.55 6.92 56.35 7.99 71.97 NV 0.062 0.109 0.102 0.090 0.134 0.102 0.228 0.267 0.453 0	AVOL		11.9	4.61	112.7	4.77	112.8	4,49	113.3	1	114.3	t
NA 0.332 0.779 0.307 0.817 0.338 0.804 0.258 0.820 -0.02 NA 38.45 6.06 44.45 6.55 47.95 6.92 56.35 7.99 71.97 MV 0.062 0.109 0.102 0.090 0.134 0.102 0.228 0.267 0.453	AVOL		60.34 46.10	1.24	60.16 46.00	1.20	59.94 45.86	- + - 8 8 8 8	59.44 45.14	- - - - - - - - - - - - - - - - - - -	58.28 43.98	
MV 0.062 0.109 0.102 0.090 0.134 0.102 0.228 0.267 0.453	10S	A N	0.332	0.779	0.307	0.817 6.55	0.338	_	0.258	0.820	-0.02	-
	VOS	`₹	0.062	0.109	0.102	0.090	0.134		0.228	0.267	0.453	0.556

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GENERIC PART NUMBER	C PAR	N	WBER	FUNCTION	NO		TE	TECHNOLOGY	>	1	REF. N	REF.NO. RECORD	CORD
101	i I			OP AMP			81	BIPOLAR			1049		5510
MANUFACTURER	CTURE	α		PART NUMBER	UMBER		S.	SPECIFICATION	T10N		DATA	DATA SOURCE	Щ.
AMD	; ! !	 	 	AM 101A		i ! ! !	i -	; ; ; ; ;	1 1 1 1 1		¥ ¥		! ! !
CDC	RAD.	RAD. TYPE		PART OTY.	BIAS					:		:	
7945D	09-00	CD-60 + N*	li .	9	V+=15V		15V.	V+=15V, V-=-15V, NONINV-INPUT TO GND VIA 6.8K, **	INPUT	TO GN	VIA	6.8K	 * *
CUM. DOSE (RADS):	SE (RAI	os):	-	0	200K+N*	*	i						
PARAMETERS	TERS		MEAN		MEAN	SD	MEAN		MEAN		_	MEAN	SD
AVOL		N N	111.6	111.6 2.830	113.7 1.464 58.12 3.587	1,464					:		
10S V0S		₹ ≥	0.566	0.566 0.458 0.424 0.361	1.531	1.198 0.358							

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REMARKS: ** RIN=10K, RF=20K, RL=10K, NO SIGNAL INPUT. *NEUTRONS: 6.E11 N/SQCM.

GENERI	GENERIC PART NUMBER	BER	FUNCTION	N.O		TEC	FCHNOLOGY		RE	F. NO.	REF.NO. RECORD
101	 	! ! !	OP AMP	 	(BIPC	BIPOLAR	† † †	0	1064	5660
MANUFA	MANUFACTURER		PART NUMBER	UMBER		SPE	SPECIFICATION	NOI	DA	DATA SOURCE	JRCE
NATIONAL	AL	f. 	EM101AM		E F I I	; ; ;	1 1 1 1	i 1 1 1	TRE	Z.	
CDC	RAD. TYPE	PAR	PART OTY.	BIAS							
7810	*N + 09-00	! !	10	V+=+15	V+=+15V; V==15V	-15V.	: 	; ; ; ;	;] ; ! !	1 	1 1 1 1 1
CUM. DO	CUM.DOSE(RADS):		0	*N+ 100K	X 00	*N+300K	χ	*N+500K	XOC .		:
PARAMETERS		MEAN	SO	MEAN		MEANS	SD	,	SD	MEAN	S
AVOL		113.5	2.037		2.298		7.861		6.844		
IB	d d	37.54 .6996	37,54 7,947 ,6996 1,751		1,402 2,078		1,666 3,051		1,934 4,213		
VOS		. 1420	.6893		.6870		1.327		1.431		

= 6.E11 N/SQCM. REMARKS: *NEUTRON RAD. REF.NO. RECORD

TECHNOLOGY

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FUNCTION
4-BIT A/D CONVERTER

GENERIC PART NUMBER

1021

DATA SOURCE

SPECIFICATION

PART NUMBER

MANUFACTURER TRW

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	! ! !	¥.	S	, , , , , , , , , , , , , , , , , , ,
	1 1 1 1 1 1	600K	MEAN SD	11.05 9.58 13.95 13.60 37.8 37.5 36.5 35.8 2.97 2.97 2.97 2.96 0.298 0.322 0.339 0.363 16.00 14.74 13.32 11.75 REC. 81. (NOT AVERAGE) @VCC=5.0V, VEE=-6.0V, VRT=0.0V, VRB=-1V.
		150K	SD	, VRT=C
	=-2.0V.	15	,	13.95 36.5 2.97 0.339 13.32
	V. VRB=	75K	SD	. OV , VE
	VCC=5.25, VEE=-6.25V, VRB=-2.0V	7	MEAN	9.58 37.5 2.97 0.322 14.74
	25, VE	30K	SO	81.
BIAS	VCC=5.2)e	MEAN	11.05 37.8 2.97.00.298 16.00 REC.
OTY.	6	! ! !	SD	
_		0	MEAN	ICC(MAX)* MA 10.10 IEE(MAX) MA 40.2 IRB(MAX) MA 3.01 DELTA-RAVG (MAX) DHMS IMH(MAX) UA 14.79PARAMETERS CONT. DN REMARKS: * MEAN=WORST-CASE
RAD. TYPE	2.5MEV EL	ADS):		MA MA MA HMS UA RS MEAN
RAD	2.5	OSE(R	ETERS	ICC(MAX)* MA IEE(MAX) MA IRB(MAX) MA DELTA-RAVG (MAX) DHMS ITH(MAX) UA PARAMETERS
LDC	7935	CUM. DOSE(RADS):	PARAMETERS	ICC(MAX)* IEE(MAX)* IRB(MAX) DELTA-RAV (MAX) IYH(MAX) -PARAMET REMARKS:

4-BIT A/D CONVERTER PART NUMBER TDC:1021J	GENERIC PART NUMBER	FUND	TECHNOLOGY	REF, NO. RECORD
FACTURER PART NUMBER SPECIFICATION TDC1021J RAD. TYPE PART QTY. BIAS	1021		; ; ; ; ; ; ; ; ; ; ;	1=145
TDC1021J	MANUFACTURER	_	SPECIFICATION	DATA SOURCE
RAD. TYPE PART QTY.	TRW	•	1 1 2 2 2 3 3 3 3 4 4 5 5 5 5 5 5 5 5 5 5 5 5 5 5	
		PART OTY. BIAS		

CUM.DOSE(RADS)	RADS):		•		30K		75K		150K	9	600K
PARAMETERS	S	MEAN SD	SD	. —	MEAN SD	MEAN	SD	MEAN SD	SD	MEAN SD	SD
	1	1 1 1 1	FLI		1	1 1 1 1	1 1 1	11111	1	11111 12111	1-1-1-1
IIL(RAX)	Ą	8 10		782		775		778		781	
VOH(MIN)	>	2.96		2.97		2.95		2.94		2.91	
IOS(MAX)	Ψ	7.84		7.56		7.51		7.49		7.44	
VOL(MAX)	≥	313		323		324		330		348	
ISK(MIN)	MA	16.01		14.52		12.95		11.45		9. 10	

* REMARKS: CONTINUATION FROM RECORD 80. *PARAMETERS CONTINUED ON RECORD 82.

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GENERIC PART NUMBER	FUNCTION	NO.		TECHN	TECHNOLOGY		REF.NO. RECORD	REC	CORD
1021	4-BIT	4-BIT A/D CONVERTER	VERTER	11.	; ; ; ; ; ;		1-145		82
MANUFACTURER	PART NUMBER	UMBER		SPECI	SPECIFICATION		DATA SOURCE	DURCE	
TRW	TDC 1021J	<u> </u>	e e	- : - 					
LDC RAD. TYPE PART QTY.	RT OTY.	BIAS		1	1		1		
CUM. DOSE(RADS):	0	Ř	30K	75K	¥	150K		900K	
, =	1	MEAN	SD	MEAN SD	· - ·	MEAN SD	MEAN	,	SD
ACCURACY WOOD	9	.0336		.0336	Ö	.0351	.0333	33	
(MAX) MV 9.00	0	8.50		8.50	6 0	8.00	80	8.8	
	7.5	0.5		0.5		0.5	8	2.5	
* DEMARKS CONTINUATION FROM RECORD 81	G MOGE N	ECORD 8		NO OF PA	*FND OF PARAMETERS				

SENERIC	GENERIC PART SUMBER		FUNCTION	z		TECH	TECHNOLOGY		_	REF.NO. RECORD	RECORD
103		!	OPTICAL COUPLER	COUPL	ER	BIPOLAR	IPOLAR	! ! ! !			5150
MANUFACTURER	TURER		PART NUMBER	JMBER		SPEC	SPECIFICATION	NO		DATA SOURCE	RCE
	1	! !	TIL 103	1 1 1 1 1	! ! ! !	! ! !	 	i 	 ! !	TRW	
, DG	RAD. TYPE		PART QTV.	BIAS				i 1 1	i] ; ; ;	1 1 1 1
7943	09-00		! ! !	VCC= 10	, B	GND, E	TO GNE	O VIA	± 40€	VCC=10V, B @ GND, E TO GND VIA 10K, DIODE, SHORTED	QRTED.
SOO. WINS	CUM.DOSE(RADS):				100X	50	200K	ŭ	500K	1MEG	IMEG
PARAMETERS		MEAN	SD	MEAN		MEAN SD	SD	MEAN	as	. ⊋ I	EAN SD
HFE(1) HFE(2)		1139.	217.	833.2	833.2 114.9 1150. 166.	660.8 974.6	660.8 69.0 974.6 112.4	433.8 40.0 764.2 86.5	40.	374.6 5 730.0	374.6 47.3 730.0 105.2

*** CONT. ON REC. 5151 REMARKS: (1)VCE=5V,IC=1MA,IF=0. (2)VCE=5V,IC=10MA,IF=0.

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GENERIC PART NUMBER	BER	FUNCTION	NO		TECH	TECHNOLOGY		œ	REF.NO. RECORD	RECORD	
103	i i	OPTICAL C	OPTICAL COUPLER	ER	BIPC	BIPOLAR	; ; ; ; ;	-	1015A	5151	
MANUFACTURER		PART NUMBER	UMBER		SPE(SPECIFICATION	NOI	۵	DATA SOURCE	RCE	
-		TIL 103	! ! ! !] 		 		1	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	1 1 1 1	
LDC RAD. TYPE	TYPE PART OTY.	017.	BIAS								
		! [] !] 	 		1	1	! ! ! !	1 ! ! ! ! ! ! ! ! ! ! ! ! ! ! ! ! ! ! !	
CUM. DOSE (RADS):	0		10	100K	50	200K	50	500K	•	1MEG	
PARAMETERS	MEAN	SD	MEAN	SD	MEAN	SD	MEAN	SD	MEAN	SD	
* VCE(SAT)** MV	137.2	11.0	149.2	11.9	159.6	137.2 11.0 149.2 11.9 159.6 17.3 223.0 56.6	223.0	56.6	7353.	7036.	
VCE(SAT) MV @IC=10MA.	155.6	13.7	174.0	174.0 15.0	179.4	18.7	213.4	31.9	31.9 262.4	52.3	
IB=0, IF=20MA											
REMARKS: *CONT. F	FROM RI	FROM REC. 5150.		IC=5MA	, IF=10M	**IC=5MA, IF=10MA, IB=0.		CONT.	*** CONT. ON REC. 5152	. 5152	

GENERIC PART NUMBER	_		TECHNOLOGY	λSί	RE	REF.NO. RECORD
103	OPTICAL COUPLER	OUPLER	BIPOLAR		10	1015A 5152
MANUFACTURER	PART NUMBER	ER	SPECIFICATION	ATION	DA	DATA SOURCE
	TIL 103	 	[! ! ! ! ! ! ! ! ! ! ! ! ! ! ! ! ! ! ! !
LDC RAD. TYPE	PART OTY. BIAS	AS				
	1 1 1 1 1 1 1 1 1 1	1 1 1 1 1 1 1 1		 		
CUM.DOSE(RADS):	0	100K	200K	50	500K	1MEG
PARAMETERS M	SD	MEAN SD	MEAN SD	MEAN	SD	MEAN SD
	6.678 2.976 5.C	5.042 2.239	4.432 1.905		1.417	2.742 1.417 2.108 1.318
IC(GN) MA 1	15.30 5.54 12.	41 4.38	5.54 12.41 4.38 11.01 3.75	5 8.008 3.338	3.338	5.262 0.647
	2.260 0.634 2.240 0.920 2.800 0.692 10.97 12.67 45.96 ** ** FROM REC. 5151, (1)VCE=5V IR=0 (2)VVE=20V IP=0	240 0.920 (1)VCE=51	0.634 2.240 0.920 2.800 0.692 10.97 12.67 45.96 97.85 ** ** ** IEC. 5151. (1)VCE=5V IR=0 (2)VVE=20V ID=0 1=0	2 10.97 **	12.67	45.96 97.0

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GENERIC PART NUMBER	FUNCTION	TECHNOLOGY		REF.NO. RECORD	RECORD
104	VOLT REG	BIPOLAR	-	32	1020
MANUFACTURER	PART NUMBER	SPECIFICATION	NOI	DATA SOURCE	CE
NATIONAL	LM104	IRT CORP	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	1	!
LDC RAD. TYPE PART OTY.	T OTY. BIAS				
UNK. CD-60	4 UNK.		 	{	1 1
CUM.DOSE(RADS):	300K	100K	300K		ξ
PARAMETERS MEAN	SD MEAN SD	MEAN SD	MEAN SD	MEAN	SD
D ICC	030 .0082		073 .005		.0058
D LOAD REG %	0.0 0.0	0.01 .05	10 .052 0.047 0085	5 0 137 060	090.
D VOL DIF V	.0225 0.005		0.075 0.00		0.005

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GENERIC PART NUMBER	FUNCTION	TECHNOLOGY	REF.NO. RECORD	RECORD
104	VOLTAGE REGULATOR	GIPOLAR	24-14	1360
MANUFACTURER	PART NUMBER	SPECIFICATION	DATA SOURCE	RCE
NATIONAL	LM104F	COMMERCIAL	ROCKWELL	
LDC RAD, TYPE PART QTV.	m .			
	UNREG-INPUT=REF=20V	REF=20V		
CUM. DOSE(RADS):	10K	30K 100K	¥	
PARAMETERS MEAN	SD MEAN SD	MEAN SD MEAN SD	SD MEAN SD	SD
D LOAD REG %	0.004 0.045	004 0,031 0.010 0.028	_	0.005 0.016

105
NUMBER:
PART
SENERIC

GENERI	GENERIC PART NUMBER	NUMB		FUNCTION	NO		TECH	TECHNOLOGY		S.	F.NO.	REF.NO. RECORD
105			. –	VOLTAGI	VOLTAGE REGULATOR	ATOR	BIPC	BIPOLAR	; 	08	805-1	4450
MANUFACTURER	CTURER			PART NUMBER	UMBER		SPEC	SPECIFICATION	ION	DA	DATA SOURCE	RCE
NSC				LM 105	; ; ; ; ;	! ! ! !	; ; ;	 	! ! ! ! !	I	1 1 1 1 1	†
LDC	RAD. TYPE	YPE	PART OTY.	OTY.	BIAS							
H142	09-00	 	4		UNK.	 	 	 		1 	! ! ! !	- - - - - -
CUM. DO	CUM. DOSE (RADS):		0	!	12.5K	<u>ک</u> ا	1	25K	u, ;	SOK	- !	100K
PARAMETERS	FERS	Σ	MEAN	SD	MEAN	SD	MEAN		MEAN	SO	MEAN	
LOAD REG VOUT LINE REG	EG MV		1.15 .000	.5 0 11.15 .051 5.000 .8165	.55 .52 11.19 .0722 6.375 1.947	. 52 . 0722 1.947		.55 .52 11.14 .0798 7.75 2.500	. 425 11.14 8.575	.425 ,427 11.14 .0930 8.575 2.420		.65 .436 11.12 .1054 8.75 2.363

REMARKS:

FACTURER	GENERI	GENERIC PART NUMBER	•	FUNCTION	NO		•	TECHNOLOGY	_	22	F.NO.	REF.NO. RECORD
E PART QTY. E PART QTY. 5 O	105	i 	! 	VOLTAG	E REGUI	ATOR	BIP(JLAR] ; ! !	; ,	141	5430
E PART QTY. 5 0 MEAN SD 5:570 0.064 5:570 0.064 5:576 0.064 18.00 4.472 14.00 8.944	MANUFA	CTURER		PART N	UMBER		SPE	SIFICAT	ION	70	TA SC	isce E
PART QTY. 5 0 MEAN SD 5:570 0.064 5:570 0.064 18:00 4.472 14:00 8:944	MOTORO		! ! !	LM 105F	i 1 1 1	 	i - - -		1 		3	;
0 MEAN SD 5.574 0.064 5.576 0.065 5.576 0.064 18.00 4.472 14.00 8.944	LDC	RAD. TYPI		OTY.	BIAS							
MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN S S.554 0.064 5.554 0.064 5.554 0.065 5.570 0.059 5.570 0.059 5.560 0.059 5.570 0.059 5.570 0.059 5.570 0.059 5.560 0.059 5.570 0.059 5.570 0.059 5.570 0.059 5.570 0.059 5.570 0.059 5.570 0.059 5.570 0.059 5.570 0.059 5.570 0.059 5.570 0.059 5.570 0.059 5.570 0.059 5.570 0.059 5.570 0.059 5.570 0.059 5.570 0.059 5.570 0.059 5.570 0.059 5.570 0.059 5.570 0.059 5.570 0.059 5.570 0.059 5.570 0.059 5.570 0.059 5.570 0.059 5.570 0.059 5.570 0.059 5.570 0.059 5.570 0.059 5.570 0.059 5.570 0.059 5.570 0.059 5.570 0.059 5.570 0.059 5.570 0.059 5.570 0.059 5.570 0.059 5.570 0.059 5.570 0.059 5.570 0.059 5.570 0.059 5.570 0.059 5.570 0.059 5.570 0.059 5.570 0.059 5.570 0.059 5.570 0.059 5.570 0.059 5.570 0.059 5.570 0.059 5.570 0.059 5.570 0.059 5.570 0.059 5.570 0.059 5.570 0.059 5.570 0.059 5.570 0.059 5.570 0.059 5.570 0.059 5.570 0.059 5.570 0.059 5.570 0.059 5.570 0.059 5.570 0.059 5.570 0.059 5.570 0.059 5.570 0.059 5.570 0.059 5.570 0.059 5.570 0.059 5.570 0.059 5.570 0.059 5.570 0.059 5.570 0.059 5.570 0.059 5.570 0.059 5.570 0.059 5.570 0.059 5.570 0.059 5.570 0.059 5.570 0.059 5.570 0.059 5.570 0.059 5.570 0.059 5.570 0.059 5.570 0.059 5.570 0.059 5.570 0.059 5.570 0.059 5.570 0.059 5.570 0.059 5.570 0.059 5.570 0.059 5.570 0.059 5.570 0.059 5.570 0.059 5.570 0.059 5.570 0.059 5.570 0.059 5.570 0.059 5.570 0.059 5.570 0.059 5.570 0.059 5.570 0.059 5.570 0.059 5.570 0.059 5.570 0.059 5.570 0.059 5.570 0.059 5.570 0.059 5.570 0.059 5.570 0.059 5.570 0.059 5.570 0.059 5.570 0.059 5.570 0.059 5.570 0.059 5.570 0.059 5.570 0.059 5.570 0.059 5.570 0.059 5.570 0.059 5.570 0.059 5.570 0.059 5.570 0.059 5.570 0.059 5.570 0.059 5.570 0.059 5.570 0.059 5.570 0.059 5.570 0.059 5.570 0.059 5.570 0.059 5.570 0.059 5.570 0.059 5.570 0.059 5.570 0.059 5.570 0.059 5.570 0.059 5.570 0.059 5.570 0.059 5.570 0.059 5.570 0.059 5.570 0.059 5.570 0.059 5.570 0.059 5.570 0.059 5.570 0.059 5.570 0.059 5.570 0.059 5.570 0.059 5.570 0.059 5.570 0.059 5.570 0.059 5.570 0.059 5.570 0.059 5.570 0	7530	09-00	1 		\(+ = + 3\)	V. PIN	S 4,6	GND:	INS 7.	8,9 TO	GND V	[A 2K.
WEAN SD MEAN SD MEAN SD MEAN V 5.554 0.064 5.554 0.064 5.554 0.064 5.570 0.059 V 5.570 0.059 5.570 0.059 5.570 0.059 A 5.562 0.061 5.560 0.059 5.560 0.059 A V 5.576 0.062 5.574 0.062 5.574 0.062 MV 18.00 4.472 16.00 5.477 18.00 4.472 18.00 4.472 MV 14.00 8.944 14.00 8.944 14.00 8.944 14.00 8.944 14.00 8.944 14.00 8.944 14.00 8.944	CUM. DO	SE(RADS):	0		¥) (Ř	X So	ּ	00 K		
V 5.554 0.064 5.554 0.064 5.554 0.064 V 5.570 0.059 5.570 0.059 5.570 0.059 V 5.562 0.061 5.560 0.059 5.560 0.059 A V 5.576 0.064 5.574 0.062 5.574 0.062 MV 18.00 4.472 16.00 5.477 18.00 4.472 MV 14.00 8.944 14.00 8.944 14.00 8.944	PARAME	TERS	MEAN	SD	MEAN	SD	MEAN	SO	MEAN	SO	MEAN	SO
V 5.562 0.061 5.560 0.059 5.570 0.059 V 5.562 0.061 5.560 0.059 5.560 0.059 A V 5.576 0.064 5.574 0.062 5.574 0.062 MV 18.00 4.472 16.00 5.477 18.00 4.472 MV 14.00 8.944 14.00 8.944 14.00 8.944	V0@10V	, 1MA V	5.554	0.064	5.554		5.554	0.064	5.554	0.064	; ! !	
A V 5.576 0.064 5.574 0.062 5.574 0.062 MV 18.00 4.472 16.00 5.477 18.00 4.472 MV 14.00 8.944 14.00 8.944 14.00 8.944	VO@35V	OMA <	5.562	0.059	5.560		5.560	0.059	5.570	0.059		
18.00 4.472 16.00 5.477 18.00 4.472 14.00 8.944 14.00 8.944	V0@15V	, 12MA V	5.576	0.064	5.574	_	5.574	0.062		0.062		
MV 14.00 8.944 14.00 8.944 14.00 8.944	LINE R	EG MV	18.00	4.472	16.00	5.477	18.00	4.472		4.472		
	LOAD		14.00	8.944	14.00		14.00	8.944	14.00	8.944		

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GENERIC PART NUMBER	_	NO	TECHNOLOGY	>	S.	
107	OP AMP		BIPOLAR	 	33 1120	
MANUFACTURER	PART	PART NUMBER	SPECIFICATION	TION	DATA SOURCE	
SILICON GENERAL	SG107F		IRT		IRT	
·. œ	PART QTY.	BIAS		:		
UNK. CD-60	4	V+=+15V, V-	V+=+15V, V-=-15V, RFB=100K, VIN+/- TO GND VIA	OK, VIN+/-	TO GND VIA 10K	
CUM.DOSE(RADS):	0	6. IX	2. 1K	8.2K	300K	
PARAMETERS	MEAN SD	MEAN SD	MEAN SD	MEAN SD	MEAN SD	
VIO MV	840	820	830	820		
A D	0.040	0.040	0.040	0.040	1.400	
	0.040	0.040	0.040	0.040	0.020	
M	900.0	0.012	0.004	0.00 8	1.380	
M M	1.900	1.900	1.800	1.600	1.550	
MA	1.900	2.100	1.800	1.600	1.550	
VO+ VO+	14.40	14.40	14.10	14.10	14.10	
EMARKS:						

GENERIC PART NUMBER	BER FUNCTION	TION	TECHNOLOGY		REF.NO. RECORD	RECORD
107	OP AMP	dk	BIPOLAR		33	1180
MANUFACTURER	PART	PART NUMBER	SPECIFICATION	TION	DATA SOURCE	JRCE
MOTOROLA	MLM107G	27 G			IRT CORP	
:	PART OTY.	. BIAS			i	:
UNK. C0-60	f 	V+=+15V, V-=	V+=+15V, V-=-15V, RFB=10OK, VIN+/- VIA 10K TD GND	OK, VIN+/- \	/IA 10K	ro GND
CUM.DOSE(RADS):	0	6.1K	21K	82K		300K
PARAMETERS	MEAN SD	MEAN SD	MEAN SD	MEAN SD	MEAN	SD
>W	0.200	0.200	0.200	0.100	4.00	
AN.	2.000	1.400	1.800	4.000	8.50	<u> </u>
A V	32.00	34.00	35.00	40.00	55.0	
	2.00	2.00	2.20	2.30	2.30	•
KHZ	5925.	6369.	6492.	6316.	9215	

REMARKS:

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FACTURER PART NUMBER SPECIFICATION NCED MICRODEVICE LM108 RAD, TYPE PART QTY. BIAS 2.5MEV EL 5 UNK. DOSE(RADS): 0 75K 150K 300K METERS MEAN SD MEAN SD MEAN SD NA .08 .0235 .2 .0856 .6 .186 NA .08 .0235 .2 .0856 .6 .186 NA .08 .035 .2 .0856 .1 .50 NA .08 .035 .2 .000 87. 1.84 NA .08 .039 92. 1.500 87. 1.84 N DB 112.0 93.8 1.047 87.8 1.243 82. 2.00	GENER	GENERIC PART NUMBER	MBER	FUNCT ION	NO		TECF	TECHNOLOGY		RE	REF.NO. RECORD	RECORD
AD. TYPE PART QTY. BIAS 2.5MEV EL 5 UNK. E(RADS): 0 75K 150K 300K ERS MEAN SD MEAN SD MEAN SD 7.7 1802 1.4 .4153 2.5 .648 3.8 .035 .2 .0856 .6 .186 3.8 .6661 7.2 1.006 11.6 1.34 3 111.0 98.8 1.039 92. 1.500 87. 1.84	108		. " ! !	OP AME			BIPO	LAR		; -	1-42	190
AD. TYPE PART QTY. BIAS 2.5MEV EL 5 UNK. E(RADS): 0 75K 150K 30 ERS MEAN SD MEAN SD MEAN SD MEAN 7.7 1802 1.4 4153 2.5 7.8 6661 7.2 1.006 11.6 3 111.0 98.8 1.039 92. 1.500 87. 3 112.0 93.8 1.047 87.8 1.243 82.	MANUF	ACTURER		PART N	IUMBER		SPEC	IFICAT	ION	DA	DATA SOURCE	3CE
ABD. TYPE PART QTY. BIAS 2.5MEV EL 5 UNK. E(RADS): 0 75K 150K 30 ERS MEAN SD MEAN SD MEAN SD MEAN T 1802 1.4 4153 2.5 T 1802 1.2 1.006 11.6 3 81 039 92. 1.500 87. 111.0 98.8 1.037 87.8 1.243 82.	ADVAN(SED MICRODE	VICE	LM 108	; 1 1 1 1	<i>f</i> 	; ; ;	! ! ! !	! ! ! !	! ! !	 	JPL
E(RADS): 0 75K 150K 30 ERS MEAN SD ME	TDC	RAD. TYPE		OTV.	BIAS	a.						
ERS MEAN SD ME	NONE	2.5MEV EI	7 1 1 1	5	UNK.	; ; ; ;	 		 	 	, 1 , , , ,	!
FRS MEAN SD 1.4 4153 2.5 .08 .0235 .2 .0856 .6 .6 .3.8 .6661 7.2 1.006 11.6 .8 .112.0 .98.8 1.047 87.8 1.243 82.	CUM, DC	JSE(RADS):			17	75K	## ##	Š	Ř	XOC	၁၅	600K
. 7 . 1802 1.4 . 4153 2.5 . 08 . 0.235 . 2 . 0.856 6 . 3.8 . 6661 7.2 1.006 11.6 . 98.8 1.039 92. 1.500 87. 112.0 93.8 1.047 87.8 1.243 82.	PARAM	FFERS	MEAN	SD	MEAN	SD	MEAN	SD	MEAN	SO	MEAN	SD
3.8 .6661 7.2 1.006 11.6 3 111.0 98.8 1.039 92. 1.500 87. 1 112.0 93.8 1.047 87.8 1.243 82.	BV0S A) N	 - - -		7.		4.0	.4153	2.5		4.1	-
112.0 93.8 1.047 87.8 1.243 82.	DIB ;	ů. DB	111.0		8 8 8	• •	7.2	1.006	11.6	1.346	17.4 82	1.648
	-GAIN	08	112.0		93.8		87.8	1.243	82.	2.008	76.4	1.655

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GENERIC PART NUMBER		FUNCTION	NO		TEC	TECHNOLOGY		RE		ECORD
108		OP AMP	; ; ; ; ; ;	 	BIPC	BIPOLAR	; ; ; ; ;	+	1-43	200
MANUFACTURER	:	PART NUMBER	UMBER		SPEC	SPECIFICATION	NOI	DA	DATA SOURCE	CE
NATIONAL SEMI.		LM 108	; ; ; ;	; ; ; ;	; ;	1	; ! ! ! !	!	; ; ;	JPL
LDC RAD. TYPE		PART OTY.	BIAS							
NONE 2.5MEV EL	1 		CNK.	1 1 1 1 1 1	; ; ; ;	1	! !	[]]] [! ! !
CUM.DOSE(RADS):	0		•	75K	25	250K	7.5	750K	a	2.5K
PARAMETERS	MEAN	SD	MEAN	S	MEAN	S	MEAN	SO	MEAN	SO
DVOS MV DIOS NA			.07	.0140		.2271	. 22		. 59	2729
DIB NA				.0778	. 7. 5	.0601	12.	• •	28.5	1.034
-GEIN DB	2 4		112.	5.963	105.	1.506	93.5	7009	78.5	1.209

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GENERIC PART NUMBER	SER FUNCTION	NO	:	TECI	FCHNOLOGY		. RE	F . NO .	REF.NO. RECORD
108	OP AMP			BIPOL	BIPOLAR		1 -	1-44	210
MANUFACTURER	PART I	PART NUMBER		SPE	SPECIFICATION	NOI	DA	DATA SOURCE	RCE
NATIONAL SEMI.	LM108	; ; ; ; ;	 		: 	1	\$ F 2 1	±, } } }	JPL
LDC RAD. TYPE	PART OTY.	BIAS							
NONE CO-60.	! ! ! ! ! !	CNK	- 1 1 1 1	† † † †	? ? \$ \$ \$! ! ! ! !	 	f 	! ! ! ! !
CUM. DOSE(RADS):	0	, - ,	75K	ä	250K	75	750K	2.5	2.5MEG
PARAMETERS	MEAN SD	MEAN	SD	MEAN	SO	MEAN SD	SD	MEAN	
DVOS MV DIOS NA		.005	.005 .0200	.02	.02 .0755		.05 :1330	ı	. 4185
DIB NA +GAIN DB	,04 40	105.2	.0608 3.805	2. 102.8	2.132		6722 7.271		1.354
-GAIN DB	107	105	105. 3.391	101	2.815		2.182		1.687

REMARKS:

GENERI	C PAR	GENERIC PART NUMBER	ER	FUNCTION	Z O		TECH	TECHNOLOGY		RE	F.NO.	REF.NO. RECORD	_
108	! ! ! ! • •	† 1 † 1 !). 	OP AMP	 	 	BIPOLA	BIPOLAR	; ; ; ; ; ;	 	1-45	220	
MANUFACTURER	CTURE	Ωx		PART NUMBER	UMBER		SPEC	SPECIFICATION	ION	OA	DATA SOURCE	JRCE	
NATIONAL SEMI	AL SEI	MI.	 	LM108	! ! ! ! !	\$ 1 1 1 1	; 	 	! ! ! ! !		; ; ; ;	JPL	ليـ
TDC	RAD.	RAD. TYPE		PART GTY.	BIAS								
NONE	2.5M	2.5MEV EL	i i i	4	UNK.	 	; 		; ! ! ! !	\$ { { { { { { { { { { { { { { { { { { {	; { { {	; ! ! !	
CWM. DOSE (RADS):	SE(RA	DS):		0		75K	Ť,	150K	ĕ	300K	v	600K	
PARAMETERS	TERS	Σ	MEAN	SO	MEAN	S	MEAN	SD	MEAN SD	SO	MEAN	S	
DVOS MV DIOS NA DIB NA +GAIN DB	NA N	; · · · · · · · · · · · · · · · · · · ·	114	*	.05 .001 1.4 119.2 106.	. 0228 . 0507 . 1336 1 . 1336 18 . 11	. 036	.0358 .0378 .1767 11.63	. 22	. 0497 . 1169 . 2809 3.275			

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GENER	GENERIC PART NUMBER	MBER	FUNCTION	NO		TECH	TECHNOLOGY		REF	Š.	REF.NO, RECORD
108		1 1 1	OP AMP		1 1 1 1 1 1 1	BIPC	BIPOLAR	1 1 1 1 1 1 1	1-46	; ; ; (0	230
MANUFA	MANUFACTURER		PART NUMBER	UMBER		SPEC	SPECIFICATION	ION	DAT	DATA SOURCE	IRCE
NATION	NATIONAL SEMI.	; !	LM108	 	! ! ! ! !	į ! !	1 1 1 1 1 1 1 1 1 1		1		JAD
TDC	RAD. TYPE PART OTW.	PAR	T OTE.								
NONE	2.5MEV EL	ı		UNK.] } } !	; ; ; ; ;	 	! ! ! ! !	 	! ! !	; ; ;
CUM. DC	CUM.DOSE(RADS):				75K	÷	150K	300K			600K
PARAMETERS	TERS	MEAN	as	MEAN SD	WEAN SD	MEAN SD	SD	MEAN SD		MEAN	MEAN SD

REMARKS:

.074 .0787 .108 .1303 4.8 .2442 95. .6658 104.2 2.811

.0515 .0515 .1641 1.081

.036 .004 4. 99.2

.004 .0239 .012 .0364 1.6 .0849 108.4 1.838 112.2 6.005

.01 .0198 .022 .0283 .8 .0459 112.4 2.083

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DVOS MV DIOS NA DIB NA +GAIN DB -GAIN DB

GENERIC PART NUMBER FUNCTION TECHNOLOGY REF.NO. RECORD 108 OP AMP BIPOLAR 1-47 240 MANUFACTURER PART NUMBER SPECIFICATION DATA SOURCE NATIONAL SEMI. LM108 OP AMP JP JP LDC RAD. TYPE PART QTY. BIAS BIAS JP JP CUM. DGSE(RADS): O 75K 150K 300K GOOK GOOK CUM. DGSE(RADS): O 75K 150K 300K GOOK SD DVOS MV OS NEAN SD NEAN SD NEAN SD DVOS MV OS 138 464O .02 1531 .015 240 .045 2578 DIIS NA 122 120 2.8 .069 6.9 420 99 6.9 420 GAIN DB 122 128 105 .3040 101 .3168				-								
TURER PART NUMBER SPECIFICATION DATA SOURCE SEMI. LM108 AD. TYPE PART OTY. BIAS SEMI. LM108 AD. TYPE PART OTY. BIAS SEMI. LM108 AD. TYPE PART OTY. BIAS SEMI. LM108 AD. TSK 150K 300K 600K SEMI. 3 UNK. 600K SEMI. 300K SE	GENER]	IC PART NUM	BER	FUNCT	NO		TEC	INOLOGY		RE	F.NO.	RECORD
AD. TYPE PART OTY. BIAS SEMI. LM108 AD. TYPE PART OTY. BIAS SMEAN EL 3 UNK. GOOK (RADS): 0 75K 150K 300K 600K RS MEAN SD MEAN SD MEAN SD MEAN SD SD MEAN	108		! !	OP AMP		: 	BIPC	LAR	: : : : : :	1	47	240
AD. TYPE PART QTY. BIAS SMEV EL 3 UNK. (RADS): 0 75K 150K 300K 600K RS MEAN SD MEAN SD MEAN SD MEAN SD O3 .0098 .072 .0158 .18 .0632 .218 .05 1.3 .180 2.8 .0698 6.9 .4272 9422 1.2 120. 2.376 108 .6673 99 .6202 95 .422 1.2 128.5 4.233 110.5 .6447 106 .3040 101 .31	MANUF/	CTURER		PART N	UMBER		SPEC	HICAT	NOI	DA	TA SOL	JRCE
(RADS): 0 75K 150K 300K 60 18 18 18 18 19 19 19 19 19 19 19 19 19 19 19 19 19	NATION	JAL SEMI.		LM108	! ! !	 		! ! !] 	1	 	JPL
(RADS): 0 75K 150K 300K 60 RS MEAN SD SB 4640 SD 153 2401 045 120 2.376 108 6673 99 6202 95 128 5 4.233 110.5 6447 106 3040 101.	LDC	RAD. TYPE		T QTY.	BIAS							
RS MEAN SD MEA	NONE	2.5MEV EL	i . I ŧ.		UNK.	 	1 1 1 6 1	1 2 1 1	, ! ! ! !	! ! !		1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
RS MEAN SD MEA	CUM. DC	SE(RADS):		0		75K	4 R1	Š.	၁၉	X	Ф	300K
.03 .0098 .072 .0158 .0432 .218 .045 .2401 .045 .2401 .045 .2401 .045 .2401 .045 .2401 .045 .2401 .045 .2401 .045 .2401 .045 .2401 .045 .2401 .045 .2401 .045 .2401 .045 .2401 .045 .2401 .045 .2401 .045 .2401 .045 .2401 .045 .2401 .2401 .2401 .2401 .2401 .2401 .2401 .2401 .2401 .2401 .2401 .2401 .2401 .2401 .2401 .2401 .2401 .2401 .2401 .2401 .2401 .2401 .2401 .2401 .2401 .2401 .2401 .2401 .2401 .2401 .2401 .2401 .2401 .2401 .2401 .2401 .2401 .2401 .2401 .2401 .2401 .2401 .2401 .2401 .2401 .2401 .2401 .2401 .2401 .2401 .2401 .2401 .2401 .2401 .2401 .2401 .2401 .2401 .2401 .2401 .2401 .2401 .2401 .2401 .2401 .2401 .2401 .2401 .2401 .2401 .2401 .2401 .2401 .2401 .2401 .2401 .2401 .2401 .2401 .2401 .2401 .2401 .2401 .2401 .2401 .2401 .2401 .2401 .2401 .2401 .2401 .2401 .2401 .2401 .2401 .2401 .2401 .2401 .2401 .2401 .2401 .2401 .2401 .2401 .2401 .2401 .2401 .2401 .2401 .2401 .2401 .2401 .2401 .2401 .2401 .2401 .2401 .2401 .2401 .2401 .2401 .2401 .2401 .2401 .2401 .2401 .2401 .2401 .2401 .2401 .2401 .2401 .2401 .2401 .2401 .2401 .2401 .2401 .2401 .2401 .2401 .2401 .2401 .2401 .2401 .2401 .2401 .2401 .2401 .2401 .2401 .2401 .2401 .2401 .2401 .2401 .2401 .2401 .2401 .2401 .2401 .2401 .2401 .2401 .2401 .2401 .2401 .2401 .2401 .2401 .2401 .2401 .2401 .2401 .2401 .2401 .2401 .2401 .2401 .2401 .2401 .2401 .2401 .2401 .2401 .2401 .2401 .2401 .2401 .2401 .2401 .2401 .2401 .2401 .2401 .2401 .2401 .2401 .2401 .2401 .2401 .2401 .2401 .2401 .2401 .2401 .2401 .2401 .2401 .2401 .2401 .2401 .2401 .2401 .2401 .2401 .2401 .2401 .2401 .2401 .2401 .2401 .2401 .2401 .2401 .2401 .2401 .2401 .2401 .2401 .2401 .2401 .2401 .2401 .2401 .2401 .2401 .2401 .2401 .2401 .2401 .2401 .2401 .2401 .2401 .2401 .2401 .2401 .2401 .2401 .2401 .2401 .2401 .2401 .2401 .2401 .2401 .2401 .2401 .2401 .2401 .2401 .2401 .2401 .2401 .2401 .2401 .2401 .2401 .2401 .2401 .2401 .2401 .2401 .2401 .2401 .2401 .2401 .2401 .2401 .2401 .2401 .2401 .2401 .2401 .2401 .2401 .2401 .2401 .2401 .2401 .2401 .2401 .2401 .2401 .2401 .2401 .2401 .2401 .2401 .2401 .2401 .2401 .240	PARAME		MEAN	SS	MEAN	S	MEAN	SD	MEAN	SO	MEAN	ļ
127 120. 2.376 1086673 996202 95. 122 128.5 4.233 110.5 .6447 1063040 101.	0000 N 0105 N 018 N	 	 	} 		.0098	.072	.0158 .1531 .0698	81.0. 81.0.	.2401	.218	
	+GAIN	08 08	127 122		120. 128.5	2.376	108. 110.5	.6673	99. 106.	.6202	95. 101.	

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108	
NUMBER:	
PART	
GENERIC	
GENE	

GENERI	SENERIC PART NUMBER	NUMBE		FUNCT ION	NC		TECHNO	FECHNOLOGY	-	RE	F. NO.	REF.NO. RECORD	
108	 	1 1 5 1 1	-	OP AMP	1 		BIPOLAR	LAR		 	1-48	250	
MANUFA	MANUFACTURER			PART NUMBER	JMBER	!	SPEC	SPECIFICATION	NOI	DA	DATA SOURCE	RCE	
NATIONAL	AL.	 	:	LM 108				·				JPL	
CDC	RAD.	RAD. TYPE PART QTY.	PART	0TY.	BIAS		.1 1 1	! - - - -	1	. [; ; ; ; ;	1 1 1 1	
NONE	2.5MEVEL	V EL			UNK.								
CUM. DO	CUM.DOSE(RADS):	s):	0		7	75K	<u> </u>	150K	30	300K		600K	
PARAMETERS	TERS	¥	MEAN	SD	MEAN	SD	MEAN	SD	MEAN	SD	MEAN	SO	
DVOS MV DIOS NA DIB NA	<u>></u> ≰	i	' 	1 1 1	. 02 . 047 . 8	.02 .0157 .017 .0101 .8 .1026	.049	.049 .0271 .02 .0090 1.6 .1921	.022	. 13 .0519 .022 .0731 2.9 .3369	.076	.0896 .0286 .5514	
+GAIN DB	80 08 08		140 120		115.6 115.	115.6 3.427 115. 2.306	106.8	. 4363	98.8	. 4363 . 6696	94.5		

REMARKS:

GENERIC PART NUMBER	MEER	FUNCTION	NO.		TECH	TECHNOLOGY		RE	. NO.	REF.NO. RECORD
108	 	OP AMP		 	BIPOLAR	LAR		 	1-49	260
MANUFACTURER		PART NUMBER	JUMBER		SPEC	SPECIFICATION	NOI	DA	DATA SOURCE	JRCE
NATIONAL	 	LM108	; ; ; ;	 				JAPL	ب	
- - -	E PAR	PART OTY.			 					1 1 1 1
NONE 2.5MEV EL		၉	UNK.							
CUM. DOSE(RADS):				75K	<u>+</u>	150K	9	300K		600K
PARAMETERS	MEAN	SD	MEAN	SD	MEAN	S	MEAN	SD	MEAN	SD
DVOS MV DIOS NA DIB NA +GAIN DB -GAIN DB	122	 	.07 .07 123.	. 1 . 0044 .07 . 0216 2 1558 123. 4.825 125.2 8.474		. 18 .0094 . 09 .0468 3 . 8 . 2775 20 . 12 . 25 22 . 10 . 95	.36 .22 .7 .106.	.36 .0186 .22 .0198 74668 106. 3.792	÷	5 .0293 7 .0652 2 .7558 1 .906 4 3.476

280

DATA SOURCE

SPECIFICATION

PART NUMBER

PRECISION MONOLITHIC

MANUFACTURER

J J

REF.ND. RECORD

TECHNOLOGY

FUNCTION

GENERIC PART NUMBER

108

OP AMP

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		600K	SD	.75 .7276	.3472	5.575	FAIL	FAIL
		600K		ı				
		300K	SO	1.18 .9291	.3216	3.700	FAIL	4.147
		0E	MEAN SD	1. 18	.47	8.5		
•		150K	SO	1.38 .9653	. 2485	2.717	FAIL	97.5 3.850
		150K	MEAN SD	1.38	4.	5.6		97.5
		75K		.6401	. 2216	1.979	106.5 10.17	8.049
BIAS	CNK.	75K	MEAN	.81	.2+	ი. ც	106.5	104.3
PART OTY.			SD					
		0	MEAN	 -			118	124
RAD. TYPE	2.5MEV EL	(SQV						
	••	CUM. DOSE(RADS):	PARAMETERS		¥ Z	ΑĀ	80	98
LDC	*	CUM.D	PARAMETER	DVOS MV	DIOS	DIB	+GAIN DB	-GAIN DB

REMARKS:

GENER	GENERIC PART NUMBER	MBER	FUNCTION	S		TEC	TECHNOLOGY		æ	REF.NO. RECORD	RECORD
108			OP AMP	 	 	BIPC	BIPOLAR	; ; ; ;	27	27	1160
MANUF	MANUFACTURER		PART NUMBER	UMBER		SPEC	SPECIFICATION	ION	Ď	DATA SOURCE	RCE
UNKNOWN.	UNKNOWN.	1 	LM108A	; ; ! !] 		1 1 1 1 1 2 6 6 6 6		H	IRT	1
rpc	RAD. TYPE	E PART	PART OTY.	BIAS							
UNK.	09-00	. -	10	V+=+10	V+=+10V, V-=-10V	- 10V	! ! ! ! !	! ! ! !	1 1 1 1	} 	1 1 1 1
CUM. DO	CUM. DOSE (RADS):	0			2M						
PARAMETERS	ETERS	MEAN	SD	MEAN	SO	MEAN	WEAN SD	MEAN	SD	MEAN	SD
NOS	AM .	035	035 .2266	648 .3625	.3625	1 1 1 1	 		!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!	1	} ; ; ;

REMARKS:

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NUMBER: 108	****
WBER:	****
IN T	***
C PART	****
GENERIC	****
G	*

GENERIC PART NUMBER	MBER	FUNCTION	NO		TEC	TECHNOLOGY		œ	EF.NO.	REF.NO. RECORD
108		OP-AMP		 	BIB	BIPOLAR] 	2	24-19	1310
MANUFACTURER		PART NUMBER	UMBER		SPE	SPECIFICATION	NOI	٥	DATA SOURCE	JRCE
NATIONAL	! ! !	LM 108AH	 I	 	COM	COMMERCIAL		~	ROCKWELL	
LDC RAD, TYPE PART QTY.	E PAR	T QTY.	BIAS							
0			V+= 15V	· · · · · · · · · · · · · · · · · · ·	15V. N	V+=15V, V-=-15V, NONINV-INPUT=5V, INV-IN=0UT	NPUT=5	V. INV	-IN=0U	-
CUM.DOSE(RADS):		0	1	30K	¥ ;	100 X	ñ	300K		
PARAMETEKS	MEAN	SD	MEAN	SD	MEAN		MEAN	OS N	MEAN	SO
D VOS MV D IOS NA D IIB NA			0.000	- T, - = -	1.680 234 0.639	1.680 0.436 234 0.082 0.639 0.208	9.314 1.666 1.513 0.622 1.486 0.648	1.666 0.622 0.648	! ! !	

REMARKS:

GENERIC PART NUMBER	MBER FUNCTION	NOI	TECHNOLOGY		REF.NO. RECORD	RECORD
108	OP-AMP		BIPOLAR		24-17	1320
MANUFACTURER	PART N	PART NUMBER	SPECIFICATION		DATA SOURCE	JRCE
FAIRCHILD	LM108AH	H			ROCKWELL	
LDC RAD. TYPE	PART OTV.	BIAS				
7942 C0-60		V+=15V, V-=-	V+=15V, V-=-15V, NONINV-INPUT=5V, INV-IN=OUT	NPUT=5V, IN	V-IN=0U	
CUM.DOSE(RADS):	0	30K	100t	300K		
PARAMETERS	MEAN SD	MEAN SD	MEAN SD	MEAN SD	MEAN	as
D VOS MV D IOS NA D IIB NA		1.233 0.438 1.159 1.065 8.557 2.791	7.053 1.344 7.809 4.237 37.65 9.427	32.90 17.37 48.02 21.67 84.41 19.88		

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GENERI	GENERIC PART NUMBER		FUNCTION		TECHNOLOGY	.0GY	R	REF.NO. RECORD	RECORD
108		90 -	0P-AMP	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	BIPOLAR		24	24-18	1330
MANUFAC	MANUFACTURER	PAI	PART NUMBER		SPECIFICATION	CATION	Q	DATA SOURCE	CE
BARNES		E	LM108AH	1 1 1 1 1	COMMERCIAL	IAL	- RO	ROCKWELL	1
207	RAD. TYP	RAD. TYPE PART GTY.	m						
7917	09-00	æ	V+=15	V, V-=-	V+=15V, V-=-15V, NONINV-INPUT=5V, INV-IN=OUT	NONINV-INPUT=5V,	V, INV-	IN=OUT	
CUM DO	CUM DOSE (RADS):	٥		30K	100K	eri	300K		
PARAMETERS	TERS	MEAN SD	MEAN	1	MEAN SD	MEAN	SD	MEAN	SD
D VOS D 10S D 11B	N N N		0.004	0.004 0.006 016 0.012 0.145 0.031	0.680 0.117 372 0.056 0.694 0.185	17-1-	7.347 1.294 235 0.728 1.888 0.643	; ; ;	1 1 1

GENE	GENERIC PART NUMBER		FUNCTION	Z		TEC	TECHNOLOGY		ž	EF.NO.	REF.NO. RECORD
108		6	OP-AMP		1	BIP	BIPOLAR	 	5.	24-16	1340
MANO	MANUFACTURER	74	PART NUMBER	MBER		SPE	SPECIFICATION	NOI	20	DATA SOURCE	RCE
NATIONAL	ONAL	5	LM 108AF		 	COM	COMMERCIAL			ROCKWELL	
TDC	RAD. TYPE	E PART QTY.	oty.	BIAS							
8016	. .	60	!	V+= 15	V+=15V, V-=-15V, NONINV-INPUT=5V, INV-IN=OUT	15V. NO	I-ANIN	NPUT=5	V. INV	IN=0UT	1 1
CUM.	CUM.DOSE(RADS):	0	!	1	30K	10	100K	ř	300K		
PARA	PARAMETERS	MEAN	SD	MEAN	SD	MEAN	SD	MEAN	SD	MEAN	SD
D VOS D 10S D 11B	NA NA	F 1 1 1 1	! !	0.008	0.008 0.019 029 0.020 0.540 0.095	2.747 1,189 514 0.293 2.656 0.521	1, 189 0, 293 0, 521		24.55 8.374 13.14 2.063 12.64 3.286	1	1 1 1 1 1

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GENER]	GENERIC PART NUMBER	NUMB		FUNCTION	Z			TECHNOLOGY	I	S.	REF.NO. RECORD	RECORD
108	1] } 		DP-AMP	! ! ! !	 	81PC	BIPOLAR		24		1350
MANUF	MANUFACTURER		•	PART NUMBER	MBER		SPEC	SPECIFICATION	NOI	DA	DATA SOURCE	ICE
FAIRCHILD	41.00	! ! !	- 	LM108AF	; ! ! !	! ! ! !	COM	COMMERCIAL	! ! ! ! !	2	ROCKWELL	,
CDC	RAD. TYPE PART OTY.	YPE	PART	0TV .	BIAS							: : : :
8017	09-00			. 60	V+=15V		15V. NC	I-ANINO	V+=15V, V-=-15V, NONINV-INPUT=5V, INV-IN=OUT	, INV	IN=OUT	
CUM. DO	CUM. DOSE(RADS):	:: ::	0		(3	30K	10	100K	30	300K	1 1 1 1	1 1 1
PARAMETERS	ETERS	1 E	į	SD	MEAN	WEAN SD	MEAN	SD	MEAN	SO	MEAN	SD
D VOS D 10S D 11B	N N N			 	0.517 0.823 9.803	0.517 \$.432 0.823 2.064 9.803 4.494	3.304 4.878 29.74		15.08 26.11 68.84			

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REMARKS:

GENERI	GENERIC PART NUMBER	MBER	FUNCTION	NO		TECH	TECHNOLOGY		3	F.N0.	REF.NO. RECORD
108	! ! ! !	 - -	OP AMP	I 		BIPOLAR	LAR	i 	25	25-3	1620
MANUFACTURER	CTURER		PART NUMBER	UMBER		SPEC	SPECIFICATION	NOI	DA	DATA SOURCE	JRCE
AMD	1 1 1 1 1 1) 	(M108AH		• • • •	! ! ! !	 	 	AE	AEROJET	· '
CDC	RAD. TYPE		PART GTY.	BIAS			. 1	1	. !		, , ,
7613	09-00	i ! !		V+= 15V	\ \	- 15V. TY	PICAL	V+=15V, V-=-15V, TYPICAL CIRCUIT (RF=10XRI)	(RF=1	OXRI)	
CUM.DO	CUM. DOSE (RADS):	J	0	y y	6. 1 K	N	2.1K	c o	82K		300K
PARAMETERS	TERS	MEAN	SD	MEAN	SD	MEAN	S	MEAN	SD	MEAN	SD
VIO	> V	.3		.3		. O.		£. 0.		 	
100	A A	 0.0		1.1		30.		30		2.6 * .30	* 0 (
GBW	KHZ	222		218		232		Z31		77	'n

REMARKS: * 4 OF 5 FAILED 2 NA LIMIT FROM 15 TO 60%

1650 RECORD

REF.NO. 16

TECHNOLOGY BIPOLAR

FUNCTION OP-AMP

GENERIC PART NUMBER

108

MOTOROLA

V+=20V, V-=-20V, VIN+=+3V, VIN- TIED TO VOUT

BIAS

RAD, TYPE PART OTY.

LDC 7816

09-00

DATA SOURCE

SPECIFICATION

PART NUMBER

MANUFACTURER FAIRCHILD

LM 108

SD

MEAN

SD

MEAN

S

MEAN

S 25K

MEAN

S

MEAN

PARAMETERS

0

CUM.DOSE(RADS):

(R	GINAL	PAGE	15
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	#*************************************		CRI OF	GINAL POOR	PAGE QUALI	is TY	
	**************************************	1005 5040	DATA SOURCE	TRW	= 10K, RF=100K	MEAN SD	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
	**************************************		 	F	V+=15V, V-=-15V, VIN=1V(P-P)1KHZ, RIN=10K, RF=100K	82.7K MEAN SD	
18.05 5.670 2 98.25 5.252 3 2.013 1.000 1 39.88 33.75 1 .325 .9979 2 .2213 .0325	**************************************	BIPOLAR	SPECIFICATION		15V, VIN=1V(66.2K MEAN SD	108.7 52.34 35.36 -884. 2 2.584 0
65.25 15.15 12.25 3.862 12.25 3.862 10.41 7000 .4143 9.613 .9114 7500 .4359 7.2375 .0350	**************************************	<u>Q</u>	PART NUMBER	if BIAS	V+=15V, V-=	SOK MEAN SD	109.6 3.98 52.86 1.06 35.60 2.80 -78.0 12.14 2.110 0.374
365.0 156.7 130.3 .550 112.0 3 .652 .1950 .1457 .4925 .0350 003 .0150	**************************************	OP AMP	PART NU	LM108F PE PART QTV.	1	MEAN SD	110.2 4.49 53.40 0.99 37.74 1.65 -5.36 8.606 0.919 0.126
AVOL K CMR DB PSRR DB V10 IIN NA I 10 I CC MA REMARKS:	GENERIC PART NUMBER	801	MANUFACTURER	NATIONAL LDC RAD. TYPE	8009A C0-60	CUM.DOSE(RADS): Parameters	AVOL 1HZ 0B AVOL 1KHZ 0B AVOL 5KHZ 0B 10S PA 1B NA VOS MV

GENERIC PART NUMBER: **********

SENERIC PART NUMBER FUNCTION	FUNCTION	TECHNOLOGY	REF.NO. RECORD
108	PRECISION OP AMP	BIPOLAR	1039 5410
MANUFACTURER	PART NUMBER	SPECIFICATION	DATA SOURCE
3CA	CA 108	;	TRW
F. RAD. TYPE PART QTY. BIAS	RT QTY. BIAS		

V+=+15V; V-=-15V. ເຄ 09-00

SD MEAN 96.88 1.300 24.92 0.884 -0.69 0.308 -0.24 0.333 S MEAN 99.06 0.844 18.46 0.871 -0.55 0.410 -0.14 0.328 S MEAN 105.4 1.837 11.02 0.622 -0.38 0.532 -0.36 0.302 SD **\$** MEAN 109.1 1.119 5.460 0.365 -0.27 0.480 0.047 0.206 S 0 109.1 MEAN CUM. DOSE (RADS): S ¥ S § PARAMETERS AVOL IB IDS VOS

REMARKS:

GENERI	GENERIC PART NUMBER	MBER	FUNCTION	NO		TECI	TECHNOLOGY		RE	. NO.	REF.NO. RECORD
108	 	! ! !	PRECISI	PRECISION OP AMP	AMP	BIP	BIPOLAR		104	1040	5420
e's uJFA	*** "UFACTURER		PART NUMBER	UMBER		SPE	SPECIFICATION	NOI.	DA	DATA SOURCE	JRCE
AMD		† † † -	AM108	1 1 1	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	1	; ; ; ;		TRW	TRW	1
	RAD. TYPE		PART OTY.	BIAS							
i i i i	09-00	! ! !	្ត	V+=+1	V+=+15V; V-=-15V.	- 15V.	 	1	1		
CUM, DO	CUM.DOSE(RADS):		0	Ť	100K	ĕ	300K	20	SOOK		
PARAMETERS	TERS	MEAN		MEAN		MEAN	SD	MEAN	SD	MEAN	SD
AVOL	DB	106.9	106.9 1.036	105.6	2.237	•	103.4 2.508	103.6	103.6 3.695	1	
18	NA N	1.048	1.048 0.147	2.012	2.012 0.340	• •	3.486 0.656	4.700	.700 0.886		
105	Z	0.003	0.003 0.032	-0.05	0.074		0.296	-0.07	0.174		
NOS	≩	-0.44	0.299	-0.54	-0.54 0.916		-0.83 1.437	-0.84	-0.84 1.371		

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REMARKS:

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PART NUMBER:	
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GENERI	GENERIC PART NUMBER	ABER	FUNCTION	NO		TĒ	TECHNOLOGY		œ	EF.NO.	REF.NO. RECORD	
108		! !	OP AMP	! ! ! !		118	BIPOLAR] 	-	1050	5520	
MANUFA	MANUFACTURER	1	PART NUMBER	UMBER		SPI	SPECIFICATION	NOI	٥	DATA SOURCE	URCE	
"AMD?"		: . : .	LM106	 	! ! ! !	į į	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	! ! !	· -	TRW		
CDC	RAD. TYPE PART OTY.	PAR	F QTY.	BIAS								
80035	*N + 09-00		10	V+=+15	V, V==	-15V,	V+=+15V, V-=-15V, NONINV-INPUT TO GND VIA 6.8K, **	INPUT	TO GND	VIA 6	.8K, **	
CUM.DO	CUM. DOSE (RADS):		•	200K+N*	ž							
PARAMETERS	TERS	MEAN		MEAN	SD	MEAN	EAN SD	MEAN	SO	MEAN	OS	
AVOL IB ABS(10S) ABS(VOS)	S) NA NA UV	106.9 0.986 27.9 196.9	2.302 0.250 31.5	3. 122 0.711 95.4 123.0 365.4 213.6	2.703 5.711 123.0			# # # #	 - 	1		

*NEUTRONS: 6.E11 N/SQCM. REMARKS: ** RIN=RL=10K, RF=20K, NO SIGNAL INPUT.

SPECIFICATION SPECIFICATION V; V=-15V. OK *N+300K *N+500K SD MEAN SD MEAN SD 2.524 38.98 3.531 96.96 4.23 6033 4.008 .9562 5.302 1.38 0.901 1.919 .2264 .3443 .387	GENERI	GENERIC PART NUMBER	,	Not	TEC	FECHNOLOGY	_	Ω.	EF.NO.	REF.NO. RECORD
PART NUMBER SPECIFICATION	108	1 5	OP AM	: : : : : : : : : : : : : : : : : : :	1 8 I P	OLAR	1 1 1	; ¥	290	5670
RAD. TYPE PART GTY. BIAS CO-60 + N* 10 V+=+15V; V-=-15V. DOSE(RADS): 0 *N+100K *N+300K *N+500K METERS MEAN SD MEAN SD MEAN SD DB 108.1 2.484 101.6 2.524 98.98 3.531 96.96 4.237 NA 1.047 3501 2.534 6033 4.008 9562 5.302 1.338 NA 0.236 0.337 1.017 0.901 1.919 2.264	MANUFA	CTURER	PART	NUMBER	SPE	CIFICAL	NOI	à	ATA SO	URCE
RAD. TYPE PART QTY. BIAS CO-60 + N* 10 V+=+15V; V-=-15V. DOSE(RADS): 0 *N+100K *N+300K *N+500K METERS MEAN SD MEAN	AMD	1 1 1 1 1 1 1 1	LM 108	AH	!	1		; ±		
DOSE(RADS): 0 *N+100K *N+300K *N+500K METERS MEAN SD MEAN SD MEAN SD DB 108 1 2.484 101.6 2.524 58.98 3.531 96.96 4.237 NA 1.047 3501 2.534 6033 4.008 9562 5.302 1.338 NA .0236 .0327 .1017 .0901 .1919 .2264 .343 .3878 NV .1511 .2800 .066 .3043 .208	LDC	RAD. TYPE								
METERS MEAN SD MEAN SD MEAN SD MEAN SD DB 108 1 2.484 101.6 2.524 98.98 3.531 96.96 4.237 NA 1.047 3501 2.534 6039 4.008 9562 5.302 1.338 NA .0236 .0327 .1017 .0901 .1919 .2264 3443 33878 NV .1511 .2800056 .3043008 3323	: * *	CD-60 + N*	10	V+=+15V; V-=	-15V.					; ! ! ! !
METERS MEAN SD MEAN SD MEAN SD MEAN SD DB 108.1 2.48.4 101.6 2.524 98.98 3.531 96.96 4.237 NA 1.047 3501 2.534 6033 4,008 9562 5.302 1.338 NA .0236 .0327 .1017 .0901 .1919 .2264 .3443 .3878 MV .1511 .2800056 .3043 .208 .332	CUM. DO	SE(RADS):	0	*N+100K	Ř+N*	X 00	*N+50	Š		
DB 108.1 2.484 101.6 2.524 98.98 3.531 96.96 4 NA 1.047 .3501 2.534 6033 4.008 .9562 5.302 1 NA .0236 .0327 .1017 .0901 .1919 .2264 .3443 .345	PARAME.	Σ	ļ	!	MEAN	SD	MEAN		MEAN	as
NA 1.047 .3501 2.534 .6033 4,008 .9562 5.302 1 NA .0236 .0327 .1017 .0901 .1919 .2264 .3443 . MV .1511 .2800056 .3043 - 208 .322	AVOL		38.1 2.484		58.98	3.531	96.96	4 237	1	1
MV . 1511 . 2800 056 . 3043 - 208 . 3254 . 3443 .	18		047 .3501		4,008	.9562	5.302	_		
	VOS		511 . 2800		1919		.3443	.3878		

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REMARKS: **7846DP. *NEUTRON RAD. = 6.E11 N/SQCM.

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GENERIC PART NUMBER	C PAF	N T	MBER	FUNCTION	N.		TECH	TECHNOLOGY	-	8	F.NO.	REF.NO. RECORD
601		1 1 ! !		5-VOLT	5-VOLT REGULATOR	TOR	BIPOLAR	LAR) 6	805-2	4460
MANUFACTURER	CTURE	œ		PART NUMBER	UMBER		SPEC	SPECIFICATION	NOI	DA	DATA SOURCE	RCE
NSC		 	1. ! ! !	LM 109	 	 	1 1 1 1	 		F	11	
LDC	RAD	RAD. TYPE		•	BIAS							
115	09-00	09-0	9		UNK.	 		 				
CUM. DOSE (RADS):	SE (R	NDS):		C	12.5K	5K	8	25K	u /	50K		100K
PARAMETERS	TERS		MEAN	SD	MEAN	SD	MEAN	SD	MEAN	SD	MEAN	SD
LOAD R	REG	≩ > ≩	13.67 5.003 6.55	13.67 1.366 5.003 .0263 6.55 .1975	13.83 5.002 8.667	1.560 .0263 .3907	14.08 4.999 9.183	- · ·	14.67 4.991 9.367	- -, .	14.33 4.977 9.633	1.494 .0267 .3236
	1	•)			•						-

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REMARKS:

GENER	GENERIC PART NUMBER	_	NO		TEC	TECHNOLOGY		R.	REF.ND. RECORD	RECORD
=	 	OP-AMP		! ! ! !	BIP	BIPOLAR		24	24-5	1450
MANUF	MANUFACTURER	PART NUMBER	IUMBER		SPE	SPECIFICATION	ION	DA	DATA SOURCE	RCE
NATIONAL	NAL	LM11CN			CON	COMMERCIAL	 	. W	ROCKWELL	!
LDC	RAD. TYPE	RAD. TYPE PART OTY.	BIAS							
UNK.	09-00	10	V+= 15V	,	15V, N	V+=15V, V-=-15V, NONINV-INPUT=5V, INV-INPUT=OUTPUT	DNINV-INPUT=5V,	INV	INPUT=(DUTPUT
CUM.D	CUM.DOSE(RADS):	0		Ť Ž		30K	0	100K	ñ	300K
PARAM	PARAMETERS	MEAN SD	MEAN	SD	MEAN SD	SO	MEAN SD	SO	MEAN	
D VOS D 10S	> e e		056 0.138 015 0.034	0.138 0.034 0.015	0.040	-,072 0,126 0,040 0,042 -,686 0,029	1.329 2.279 0.057 0.046	2.279	2.799	2.799 6.044 0.023 0.121

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GENERI	GENERIC PART NUMBER	JMBER	FUNCTION	NOI		TECH	TECHNOLOGY	_	œ	REF.NO. RECORD	RECORE
11	· .	-	SAMPLE	SAMPLE AND HOLD	7.D	BIPOL	BIPOLAR	; f t t	-	1-142	1870
MANUFACTURER	STURER		PART	PART NUMBER		SPE	SPECIFICATION	TION	۵	DATA SOURCE	SCE
PMI			SMP 11F	1		i ! !	; ; ; ;	 	; 5 !	UPL	1
CDC	RAD. TYPE		PART OTV.	BIAS							
7920	2.5MEV EL	!	: : : :	VCC=13	VCC=12V, VEE=12V	= 12V.	! ! !	; ; ; ; ;	i 1 1	! ! ! !]
CUM. DO	CUM.DOSE(RADS):	, , ,	0		30K		75K	#	150K	Ğ	600K
PARAMETERS	rers	MEAN	SD	MEAN	SD	MEAN	SD	MEAN	SD	MEAN	SD
VOS (MAX)	VOS(MAX) * MV	7.29	 	10.04	 	14.16	 	17.10	t. E, F B1 &	4.6	1]
+AV(RL=N/C)		8666		966		N 666		0.40		999	
-AV(RL=N/C)	(2/C)		. ,								
(MIN) PARAME	PARAMETERS	CONT	20	. 9997 REC. 1871	1871	. 9995		. 9994		. 9992	
REMARKS: *		MEAN=WORST-CASE	-CASE	(NOT A)	(0.)	/CC=12V	VEE=-	(NOT AVG.) @VCC=12V, VEE=-12V, HOLD CAP=.05MFD	LD CA	= .05MF	

GENERIC PART NUMBER	FUNCTION	NO		TECI	TECHNOLOGY	.	<u> </u>	REF.NO. RECORD	RECORD
+	SAMPLE	SAMPLE AND HOLD	. 07	BIP	BIPOLAR	! ! ! ! !	i - !	-142	1871
MANUFACTURER	PART N	PART NUMBER		SPE	SPECIFICATION	LION	Õ	DATA SOURCE	RCE
PMI	SMP 11F	 	; ; ; ;	i !	i 	1. 1. 2. 1. 1.	i !		
LDC RAD. TYPE PA	PART OTY.	BIAS	1	1	; ; ; ;	 	1	 	! ! !
CUM.DOSE(RADS):	0	e	30K		75K	15	150K	9	600K
PARAMETERS MEAN	OS:	MEAN	SD	MEAN	SD	MEAN	SD	MEAN	os –
+AV(RL=2.5K)* (MIN) DB .9997 -AV(RL=2.5K)*	7	. 9995		. 9393	1 	9991] 	6866	
(MIN) (28 .9997	7	9666		.9994		. 9992		. 9991	
ISK* (MIN) NA 8.78	80	7.33		6.33		5.83		5.45	
MA		-19.6		-19.4		-19.4		-19.1	
PARAMETERS CONT. PEMADKS: CONTINIED FDOM		ON REC. 1872	1872.	MEAN) J- Tode	1 1 4 V 3 O 1	<u>i</u>		
REMARKS. CONTINUED		מיסוי מצו	÷	MEAIN-WI	ביים ביים	MEAN-WORSI-CASE VALUE	<u>ر</u>		

7.68

8.92

7.18

4.99

3.51

TACQ(RL=2.5K)
*(MAX) US
Q TRANS*

626

632 4.87

593 4.93

596 5.04

583 5.25

(MAX) PC ICC* (MAX) MA

--PARAMETERS CONT. ON REC. 1874. REMARKS: CONTINUED FROM RECORD 1872. * MEAN=WORST-CASE VALUE.

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				2	ובכשמחמשו) 		MET.NO. MECOND
	SAMPLE	SAMPLE AND HOLD	0	BIPC	BIPOLAR		1-142	1872
MANUFACTURER	PART	PART NUMBER		SPEC	SPECIFICATION	NOI	DATA SOURCE	URCE
I	SMP 11F	 	! ! !	; ! !				
TYPE	PART OTY.	BIAS						1
CUM.DOSE(RADS):	0		30K	• •	75K	150K		600K
s	QS N	MEAN	SD	MEAN	SD	MEAN SD	. ≥ 1	EAN SD
+SR(RL=2.5K)* (MIN) v/US 4.50	50	3.44		2.03		1.1	09.0	. 0
	60	-4.51		-3.36		-2.34	-1.8	80
	83	1.05		1.43		1.82	3.13	<u>ო</u>
[IL* (MAX) UA -5.	33	-11.1		-15.7		-17.7	-17.	4
PARAMETERS CONT.			873.					

Original page 19 Of Poor Quality

GENER	GENERIC PART NUMBER	NUME	SER	FUNCTION	NO		TEC	TECHINDLOGY		æ	F.NO.	REF.NO. RECORD
11		, , , , ,	!	SAMPLE A	SAMPLE AND HOLD	LD	BIPC	BIPOLAR	; ; ; ; ; ; ;	+	1-142	1873
MANUF	MANUFACTURER			PART NUMBER	UMBER		SPEC	SPECIFICATION	NOI	DA	DATA SOURCE	JRCE
PMI	\$ 	1	! !	SMP 11F	1 	! ! ! !	i ! !		 - - -	·		i - -
TDC	RAD. TYPE	TYPE	PART	RAD. TYPE PART QTY.	BIAS			! ! !	 			
CUM. DC	CUM.DOSE(RADS):	s):	3	# 1 to 1		30K		75K	<u>.</u>	150K		600K
PARAMETERS	ARAMETERS	_	MEAN SD	WEAN SD	MEAN SD	SD	MEAN SD	MEAN SD	MEAN SD	SD	MEAN	MEAN SD

RECORD 1874

REF.NO. 1-142

TECHNOLOGY

FUNCTION
SAMPLE AND HOLD

GENERIC PART NUMBER

DATA SOURCE

SPECIFICATION

PART NUMBER

BIAS

PART OTY.

RAD. TYPE

LDC

600K

150K

75K

30K

0

CUM. DOSE (RADS):

OR!	GINAL	PAGE	IS
OF	POOR	QUALI	TY

PARAMETERS	MEAN SD	MEAN SD	MEAN SD	MEAN SD	MEAN SD
+IDFT(V=+5V)* (MAX) NA	1.57	2.44	4.32	i n	I -
(MAX) NA	1.56	10.65	10.35	10.46	9.79
END OF PARAMETERS REMARKS: CONTI	END OF PARAMETERS REMARKS: CONTINUED FROM RECORD 1873	DRD 1873. *	MEAN=WORST-CASE VALUE	SE VALUE.	
****	· * * * * * * * * * * * * * * * * * * *	******	******	****	**************************************
GENERIC PART N	NUMBER FUNCTION	NOI	TECHNOLOGY		REF.NO. RECORD
110	OP AMP		BIPOLAR		1-38 1010
MANUFACTURER	PART	PART NUMBER	SPECIFICATION	NOI	DATA SOURCE
NATIONAL SEMI.	LM11CLH	I.	† 1 1 1 1 1 1 1 1 1	1 1 1 1 1 1 1 1	JPL
LDC RAD. TYPE	PE PART OTY.	BIAS			
	EL 3	UNK.	1	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	
CUM. DOSE (RADS):	0	75K	150K	300K	600K
PARAMETERS	MEAN SD	Z	MEAN SD	1	MEAN SD
DVOS MV DIOS NA DIB NA +GAIN DB -GAIN DB	127.	10, 7.883 .25 .3825 9.8 7.681 59. 1.313 719143	1. 5.895 1. 1615 4. 1.481 FAIL FAIL	32. 4.302 16441 29.9 4.801 FAIL	2 25. 3.134 1 4. 5.391 1 21. 6.556 FAIL

REMARKS:

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GENERIC	GENERIC PART NUMBER	WBER	FUNCTION	NO		TECH	TECHNOLOGY		RE	F. NO.	REF.NO. RECORD
110	 	! ! !	OP AMP	VOLT	OP AMP VOLT FOLLOWR		BIPOLAR	! ! ! !	100	1066	5680
MANUFACTURER	rurer		PART NUMBER	UMBER		SPEC	SPECIFICATION	NOI	DÀ1	DATA SOURCE	JRCE
MOTOROLA		! ! !	LM110C	; 	 		! ! ! !	; { { { { { { { { { { { { { { { { { { {	TRK	3) 6 1 1 5
	RAD. TYPE	E PAR	PART OTY.	BIAS							
7515 (*N + 09-00	1	10	V+=+15	V+=+15V; V-=-15V	-15V	 	; 	1 1 1 1	; ; ; ;	
CUM. DOSE	CUM.DOSE(RADS):			*N+100K)OK	*N+300K	XOC.	*N+500K	XOC		
PARAMETERS	ERS	MEAN		MEAN	SD	MEAN		MEAN	S	A M M	SD
VOS) N	2.394		2,562	2,562 1,144	2.499	1.241	2.431	1.328	i i i	
RIN	OI GOHM	655.5	. 5662 283.2	5, 780	5,780 1.547 121.0 22.50	12.92	3.586 31.62	90.00	18. 72 5.003 90.00 45.95		
+SLEW(1	sn/n (1377	58.53	1537	81.38	1530	78.31	1537	81.38		
-SLEW(1) V/US	sn/n (697.1	697.1 54.38	680.7	67.20	687.4	66.08	716.2	59.56		
+SLEW(2	sn/n (35.20	35.20 4.290	34.90	34.90 4.202	33.90	2 33.90 4.149	33.70	33.70 3.917		
SLEW(2)		20.70	2.263	20.80	2.394	20.60	2.413	20.10	2.470		
DEMADE.	•	CYO NC	*NEITEDN DAN = G F44 N/SOOM	17/N ++	- NO.	1) TAIDING	- 0	(3)	TIMPIT D	7	

GENERIC PART NUMBER		FUNCTION	S.		TEC	TECHNOLOGY		RE	-	RECORD
		COMPARATOR	ATOR	 	ВТРС	BIPULAR	; 	 	1-52	300
MANUFACTURER	α.	PART NUMBER	UMBER		SPEC	SPECIFICATION	ION	DA	DATA SOURCE	RCE
ADVANCED MICRODEVICE		LM111	; ; ; ; ;	1 6 1 1 1	[] P	UPL	! 1 ! !
_	E PART OTY.	QTY.	BIAS							
78240 2.5MEV EL	[m	1 	CNK.	 	! ! ! !	1 1 1 1 1 1	, 1 1 † 1 1	! ! ! !	1 1 1 1 1	† † ; ;
CUM.DOSE(RADS):	•	1		75K	Ä	250K	75	750K	2.5MEG	MEG
PARAMETERS	MEAN	SO	MEAN	SO	MEAN		MEAN	S	MEAN SD	SD
DVDS MV DIOS NA DIB NA	 		. 3 2. 55.	.0939 .8581 2.857	. 6 4. 120.	.6 .0837 47663 120. 5.864	1.2	1.2 .2061 155554 250. 12.07	3.9	3.9.2861 74.1.589 500.27.11

GENERIC PART NUMBER	ш.	TON		TECHNOLOGY	~	2	REF.NO. RECORD	RECORD
	COMPARATOR	SATOR	1 1 1 1 1	BIPOLAR] 	i -	1-53	310
MANUFACTURER	PART	PART NUMBER		SPECIFICATION	NOI	Ď	DATA SOURCE	RCE
ADVANCED MICRODEVICE	E LM111	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	 		1		JPL	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
LDC RAD. TYPE PART OTY.	ART OTY.	BIAS						
7922 2.5MEV EL	60	CNK.	 	·		1 1 1	!	
CUM.DOSE(RADS)	0		: ZX	5		15K		20K
PARAMETERS MEAN	OS	MEAN	SD	MEAN SD	MEAN	SD	MEAN	SD
DVOS MV DIOS NA DIB NA		. 12	. 12 . 0483 . 1 . 3350 28. 9.860	.26 .0833 .24 .5688 52. 22.51	. 36	.4 .1113 .36 1.068 74. 36.09	i	.52 .1331 .43 1.878 95. 49.79

GENERIC PART NUMBER	FUNCTION	NO	-	TEC	TECHNOLOGY		2	REF.NO. RECORD	RECORE
111	COMPARATOR	ATOR		BIPOLA	BIPOLAR	 	i + !	1-54	320
MANUFACTURER	PART NUMBER	UMBER		SPE	SPECIFICATION	ION	a	DATA SOURCE	RCE
ADVANCED MICRODEVICE	LM111	! ! ! !			 	1	190	JPL	
LDC RAD. TYPE PART GTY.	T OTY.	BIAS							
7922 2.5MEV EL.	: : : &	CNK .		 	 				1
CUM.DOSE(RADS):	0		30K	•	40K	-	50K		75K
PARAMETERS MEAN	S	MEAN	SS	MEAN	S	MEAN	SD	MEAN	SD
DVOS MV DIOS NA DIB NA		.7 1.2 117.2	.7 .1712 1.2 3.240 117.2 64.48	. 88 2.5 127.6		3.8 13.1	1.4 .2544 3.8 4.727 131 69 90	1.28	1.28 .3143 5.4 4.476 99 2 76 59

GENERIC PART NUMBER		FUNCTION		TEC	TECHNOLOGY		æ	REF.NO.	RECORD
		COMPARATOR	! ! ! !	BIP	BIPOLAR		i + !	1-55	330
MANUFACTURER	<u>م</u> :	PART NUMBER		SPE	SPECIFICATION	ION	70	DATA SOURCE	3CE
ADVANCED MICRODEVICE	·	LM111	; ; ; ; ;	!]. 	 - -	JPL	
LDC RAD. TYPE		ш							
	1 1 0 1	CNK.	1 1 1 1	; 		i ! ! !		1	
CUM. DOSE (RADS):	0		30K		40K		50K	•	75K
PARAMETERS	MEAN	SD MEAN		MEAN	EAN SD	MEAN	SO	MEAN	S
DVOS MV DIOS NA DIB NA	i 	1.5	.5 .2738 .55 1.657 18. 13.38	. 63 2.35 32.	. 63 . 3384 2.35 2.418 32. 23.64	.75	3. 3.234 42. 33.34	3.95	.91 .4838 3.95 3.817 52.5 44.13

REMARKS:

GENERIC PART NUMBER	ART NU	WBER	FUNCTION	NO		TEC	FECHNOLOGY		æ	REF.NO. RECORD	RECORD
1		! ! !	COMPARATOR	ATOR	1	BIP	BIPOLAR		-	1-56	340
MANUFACTURER	JRER		PART NUMBER	UMBER		SPEC	SPECIFICATION	ION	DA	DATA SOURCE	SCE
ADVANCED MICRODEVICE	MICRODE		LM111	 	4 1 1 1 1	<u> </u>		 	JAD	PL.	!
	RAD. TYPE		PART OTY.	BIAS							
7922 2.	2.5MEV EL	E 60	!	UNK.	1 1 1 1 1	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	! ! !		! ! ! !	1	1
CUM.DOSE(RADS):	RADS):	0	 		SK.	•	ž Ž	•	15K		20K
PARAMETERS	S.	MEAN	SD	MEAN	S	MEAN	SO	MEAN	SD	MEAN	SD
DVOS MV DIOS NA DIB NA			 	.05	.0584 .4422 12.67	. 34	.4 .6551 64. 25.53	49 1.1	. 49 . 1589 1.1 1.153 94. 37.80	.63 2.05 122.	.63 .2093 2.05 1.726 122, 49.22

GENERI	GENERIC PART NUMBER	MBER	FUNCTION	NO		TECI	TECHNOLOGY		R	F.NO.	REF.NO. RECORD
111			COMPARATOR	ATOR	1 1 1 1 1	BIP	BIPOLAR] 	-	1-57	350
MANUFA	MANUFACTURER		PART NUMBER	UMBER		SPE(SPECIFICATION	NOI	DA	DATA SOURCE	JRCE
ADVANC	ADVANCED MICRODEVICE	EVICE	LM111	1	 	!	 		JPL	JPL	
LDC	RAD. TYPE PART QTY.	E PART	OTY.	BIAS							
7922	2.5MEV EL			SNK.	 	1			! ! ! !		
CUM. DO	CUM.DOSE(RADS):	0			30K	7	40K	-,	50K		75K
PARAMETERS	TERS	MEAN	SD		SD	MEAN		MEAN	1	MEAN	SD
DVOS MV DIOS NA DIB NA	≥ 4 4			. 58 2.5 84.	.58 .3121 2.5 3.208 84. 81.98	3.7	. 79 . 3905 3.7 4.873 95. 88.45	.84	. 84 . 4767 5. 6.230 101. 86.83	6.7	1.1.6199 6.7.7.801 106.78.87

REMARKS:

GENERIC PART NUMBER	FUNCTION	N		#EC!	TECHNOLOGY		8	REF.NO. RECORD	RECOR
111	COMPARATOR	ATOR	; ; ; ; ;	BIP	BIPOLAR	 		1-58	360
MANUFACTURER	PART NUMBER	JMBER		SPE	SPECIFICATION	NOI	DA	DATA SOURCE	SCE.
ADVANCED MICRODEVICE	LM111	i !	1 1 1 1 1 1		 	i 	JAD	JPL	
_	ART OTY.	BIAS							
7922 2.5MEV EL		C.K.	1 1 1 1 1 T	; ; ; !	 		1 1 1 1		
CUM.DOSE(RADS):	0		Σχ	·	Š		Ť.	••	20K
PARAMETERS MEAN	os 1	MEAN	SD	MEAN	SD	MEAN	SD	MEAN	SD
DVOS MV DIOS NA DIB NA		1.5	.0766 .2891	. 52 . 52 34	1381	. 31	.31 .1829 .76 1.083	1.48	. 2353 1.769 61 30

REMARKS:

GENERI	GENERIC PART NUMBER	MBER	FUNCTION	NO		TEC	TECHNOLOGY		2	:F.NO.	REF.NO. RECORD
=			COMPARATOR	ATOR	; 	BIP	BIPOLAR		i	1-59	370
MANUFA	MANUFACTURER		PART NUMBER	UMBER		SPE	SPECIFICATION	NOI	٥	DATA SOURCE	RCE
ADVANC	ADVANCED MICRODEVICE	EVICE	LM111			!	1	 - - 	Jan	JPL	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
TDC	RAD. TYPE	E PAR	PART OTY.	BIAS							
7922	2.5MEV EL	! ! !	8	Z Z Z	 		1	1			† † † !
CUM.DO	CUM.DOSE(RADS);		0	1	30K		40K		50K		75K
PARAMETERS	TERS	MEAN	SD	MEAN	SD	MEAN	S	MEAN	SD	MEAN	SD
DVOS MV DIOS NA DIB NA	N N N			8. 1. 8 	.3629 1.515 13.37	. 71 2.3 33.	.71 .4338 2.3 1.814 33. 24.91	. 86 3. 2 43.	.86 .5222 3.2 2.079 43. 32.50	1.18 3.9 48.	3.9 2.835 48. 34.67

GENERIC PART NUMBER	ш.	NOI.		TEC	TECHNOLOGY		2	EF. NO.	REF.NO. RECORD
111	COMPA	COMPARATOR	: 	BIP	BIPOLAR	!	i + 	1-60	380
MANUFACTURER		PART NUMBER		SPE	SPECIFICATION	NOI	0	DATA SOURCE	JRCE
ADVANCED MICRODEVICE	TCE LM111	t] 	! !	 		JPL	JPL	
RAD, TYPE PART OTY.	PART OTY.	_							
	1	CNK.	 	i] 	1 1 1	# # # #		1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
CUM. DOSE(RADS):	0		ű K	. *	Ť Ž	·	15K		20K
PARAMETERS M	MEAN SD	MEAN	SD	MEAN	SD	MEAN SD	SO	MEAN SD	SO
> V V V	F	. 13	. 13 . 0911 . 19 . 3221 54 . 33 . 60	. 245 . 44 58.8	. 245 . 1617 . 44 . 6459 58.8 32.20	. 35	.35 .2312 .84 .7986 64.8 30.82	1.32	. 445 . 2896 1.32 1.088 73.2 27.19

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GENERIC PART NUMBER: 111	***************************************	

GENER	GENERIC PART NUMBER	MBER	FUNCTION	NO		TEC	TECHNOLOGY		2	F. NO.	REF.NO. RECORD
Ξ			COMPARATOR	ATOR	; ; ; ; ;	BIP	BIPOLAR	1 1 1 1 1	1 1	1-61	390
MANUF	MANUFACTURER		PART NUMBER	UMBER		SPE	SPECIFICATION	NOI	DA	DATA SOURCE	RCE
ADVANCED	ADVANCED MICRODEVICE	EVICE	LM111	1 1 1 1	 	i	; † ! !	1			JPL
rpc	RAD. TYPE PART GTY.	PART	OTV.	BIAS							
7922	2.5MEV EL		60	UNK.	 	1 ! ! ! ! ! ! ! ! ! ! ! ! ! ! ! ! ! ! !	1	i] 	1	1 1 1 1
CUM. DC	CUM.DOSE(RADS):				30K	7	40K	•	50K		75K
PARAMETERS	FTERS	MEAN	SD	MEAN SD	SD	MEAN	SO	MEAN	SD	MEAN	SD
DVOS MV DIOS NA DIB NA	> 4 4			.62 1.7 16.	. 62 . 2936 1.7 1.497 16. 9.174	. 76 2.6 30.5	.76 .3627 2.6 2.750 30.5 22.12	3.5 3.5 35.5	3.5 3.708	1.12	1. 12 . 5291 4.8 4.851 51. 44.41

GENER	GENERIC PART NUMBER	MBER	FUNCTION	NO		TEC	TECHNOLOGY		32	F. NO.	REF.NO. RECORD
111	·	1 1 1 1	COMPARATOR	ATOR		BIP	BIPOLAR		 	1-62	400
MANUF	MANUFACTURER		PART NUMBER	UMBER		SPE	SPECIFICATION	NOI	Ω	DATA SOURCE	JRCE
ADVANC	ADVANCED MICRODEVICE	EVICE	LM111	i † 	 	<u> </u> 	1	1			JAPL
CDC	RAD. TYPE		PART QTY.	BIAS							
7922	2.5MEV EL			CN CN CN CN CN CN CN CN CN CN CN CN CN C	 		1	1	I - - - -		1 1
CUM. DO	CUM. DOSE(RADS):		C		5K		1 0K		15K		20K
PARAMETERS	TERS	MEAN	SD	MEAN	SD	MEAN	SD	MEAN	SO	MEAN	SD
DVOS M DIOS N DIB N	N N N	·		3.5 66.	. 11 . 0697 3.5 12.49 66. 61.64	.265	. 265 . 1374 . 1 1. 199 77. 72.63	; «	.36 .1829 .6 .5942 84.5 76.31	. 45 . 85 . 90.5	.45 .2231 .85 .7954 90.5 71.56

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T NUMBER: 111	*****
GENERIC PART NUMBER	***************************************
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GENERIC PART NUMBER		FUNCTION			TEC	TECHNOLOGY		ă.	F . NO.	REF.NO. RECORD
111	O 	COMPARATOR	OR	 	BIP(BIPOLAR	! ! ! !	: ≠ 	1-63	410
MANUFACTURER		PART NUMBER	BER		SPE(SPECIFICATION	ION	Ď	DATA SOURCE	JRCE
ADVANCED MICRODEVICE		LM111	f. f 1			‡ ‡ ‡ ↓ ↓	 	† 		Jab
_	PART		BIAS							
7922 2.5MEV EL	1 60	: D	UNK.	 	: : : :		 	 	1	1 1
CUM.DOSE(RADS):	. 0			ξ	•	Ž		15K		20K
PARAMETERS	MEAN	SD ME	MEAN	SO	MEAN	SD	MEAN	SD	MEAN	SD
DVOS MV DIOS NA DIB NA	! ! ! !	! !	3.	3. 6.357	1	. 27 . 1048 . 8 . 7796	375	.375 .1477 1,28 1.292	; ;	.455 .1764 1.8 1.929

GENERIC PART NUMBER	MBER	FUNCTION	NOJ		TEC	TECHNOLOGY		R	REF.NO. RECORD	RECORD
		COMPARATOR	RATOR	 	BIP	BIPOLAR	 	-	1-64	420
MANUFACTURER		PART N	PART NUMBER		SPE	SPECTICATION	NOI	Ö	DATA SOURCE	RCE
ADVANCED MICRODEVICE	EVICE	LM111	! ! ! !	 - - - - -	r I I	1 1 1 1 1 2 1	1 : 1 1 : 1 1 : 1 1 : 1	JPL	JPL	i : : !
LDC RAD. TYPE PART QTY.	E PART	. OTY.	BIAS							
7922 2.5MEV EL		6 0	CNK	 	E F I I I	† 	! ! ! ! !	; ; ; ;) · 1 1 1
CUM.DOSE(RADS):	J	•		30K	•	40K	,	50K		75K
PARAMETERS	MEAN	SD	MEAN	SD	MEAN		MEAN	Sü	MEAN	SD
DVOS MV DIOS NA DIB NA			. 62 2.9 24.	. 62 . 2390 2.9 2.834 24. 12.64	3.5 3.5 43.	.76 .2969 3.5 3.533 43. 27.43	.91	. 91 . 3614 4. 15 4. 107 59. 43.09	1.12 5.25 73.	1.12 .4618 5.25 5.396 73 .56 .86

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GENERIC PART NUMBER	FUNCTION	NO		TEC	TECHNOLOGY		œ	EF.NO.	REF.NO. RECORD
	COMPARATOR	ATOR		BIP .	BIPOLAR	1 1	1	1-65	430
MANUFACTURER	PART NUMBER	UMBER		SPE	SPECIFICATION	NOI	õ	DATA SOURCE	RCE
ADVANCED MICRODEVICE	LM111			1	 	1	15	JPL	
LDC RAD. TYPE PAR	PART OTY.	BIAS							
•	7	C K			1		1	!	!
CUM.DOSE(RADS):	0		30K	•	40 K		50K		75K
PARAMETERS MEAN	SD	MEAN	SD	MEAN	SD	MEAN	SO	MEAN	SD
DVOS MV DIOS NA DIB NA		3.75	.78 .4216 3.75 4.946 18. 13.47	. 93 4.25 34.5	.93 .5049 4.25 5.246 34.5 26.31	1.06 5.	1.06 .5420 5. 5.846 46. 36.06	•	1.36 .7032 6.1 6.675 54.5 44.40

GENERIC PART NUMBER	MBER FUNCTION	NOI		TEC	TECHNOLOGY		ž	REF.NO. RECORD	RECOR
1	COMPA	COMPARATOR	! ! !	BIP	BIPOLAR	; ; ;		1:-66	440
MANUFACTURER	PART	PART NUMBER		SPE	SPECIFICATION	NOI	Õ	DATA SOURCE	RCE
ADVANCED MICRODEVICE	VICE LM111		; ; ; ; ; ;	!	-	1	JPL	JPL	
LDC RAD. TYPE	PART OTY.	_							
7922 2.5MEV EL	7	UNK.	 	1	1 1 1		; ! ! !	1	i
CUM. DOSE (RADS):	0		Σχ		Ž		15K	••	20K
PARAMETERS	MEAN SD	MEAN	S	MEAN	SD	MEAN	SD	MEAN	SD
DVOS MV DICS NA DIB NA		. 14	. 14 . 0981 .8 2.255 65.2 54.59	1.4	.31 .1781 1.4 2.716 69.5 54.42	1.96	. 44 . 2339 1.96 3.038 72. 52.83	2.72	3150

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GENERIC PART NUMBER	FUNCTION	TECHNOLOGY	REF.NO. RECORD
	COMPARATOR	BIPOLAR	1-67 450
MANUFACTURER	PART NUMBER	SPECIFICATION	DATA SOURCE
ADVANCED MICRODEVICE			JDPL
LOC RAD. TYPE PART QTY.	. 00		
•	8 UNK.	*	
CUM. DOSE(RADS):	30K	40K 50K	75K
PARAMETERS MEAN	SD MEAN SD	MEAN SO MEAN SD	MEAN
DVOS MV DIOS NA DIE NA	.79 .3618 5.9 4.847 151. 87.58	, . co o	170.88

	NO. REC		ADVANCED MICRODEVICE LM111	T OTY. B	2.5MEV EL 8 UNK.	CUM.DOSE(RADS): 0 5K 10K 15K 20K	1 2 E	.0699
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GENERIC PART NUMBER: 111	*
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GENERIC PART NUMBER	IMBER	FUNCTION	NOI		TEC	TECHNOLCAY	>	u	PEF NO DECOR	00000
111	 	COMPARATOR	RATOR		BIP	BIPOLAR		. , -	1-69	470
MANUFACTURER	·	PART N	PART NUMBER		SPE	SPECIFICATION	NOIL		DATA SOLIDCE	3.0
ADVANCED MICRODEVICE	EVICE	LM111	 	 	:			1	UPL	
LDC RAD. TYPE PART GTY.	E PAR1	r QTY.	BIAS							
7922 2.5MEV EL		4	CNK.			1			1	1
CUM. DOSE (RADS):	0			5K	*-	ş		15K	· ·	1 X C
PARAMETERS	MEAN	SD	MEAN	SD	MEAN	SD	MEAN	SD	MEAN	5 6
DVOS MV DIOS NA DIB NA		‡ 	.08	.0499 .3447 10.96	. 18	. 18 . 1059 . 28 . 4681 24.5 19.27	.27 .43 31.	.27 .1555 .43 .6277 31. 22 .62		.34 .1962 .6 .8241

GENERIC PART NUMBER		FUNCTION		TECHNOLOGY	٨.	REF.NO. RECORD	RECORD
111	CO	COMPARATOR		BIPOLAR	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	1-70	480
MANUFACTURER	PAR	PART NUMBER		SPECIFICATION	NOI	DATA COMBCE	100
ADVANCED MICRODEVICE	VICE LM111	11				JPL	K
LDC RAD. TYPE PART QTY.	PART OT	_					
N	6	UNK.	1			† 	1 1 1 1
CUM. DOSE (RADS):	0	·	75K	150K	300K		
PARAMETERS	MEAN SD	MEAN	SD	MEAN SD	MEAN SD	MEAN	5
DVOS MV DIOS NA DIB NA		.36	.36 .0474 18986	3.2 1.725	98.9		3

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NEKIC PART NUMBER.	*

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GENERAL PART NUMBER	FUNCTION	TECHNOLOGY	REF NO DECORD
	COMPARATOR	BIPOLAR	1-71 490
MANUFACTURER	PART NUMBER	SPECIFICATION	
ADVANCED MICRODEVICE	LM111		JAIA SUURCE
LDC RAD. TYPE PART GTY. NONE 2.5MEV EL 9	T QTY. BIAS		
CUM.DOSE(RADS):	!	150K 300K	
DVOS MV DIOS NA DIB NA	SD MEAN SD	MEAN SD MEAN SD 1.04 .1289 1.72 .2180 4.6 .9645 11. 1.728 103. 6.196 160. 8.227	MEAN SD

GENERIC PART NUMBER		FUNCTION	2		, ,			• •	*	1. 新兴州州林州州州州州州州州州州州
111			5		E	(ECHNOLOGY	, ,		REF.NO. RECORD	RECORD
	8	COMPARATOR	ATOR		81	BIPOLAR		! !	1-72	500
MANUFACTURER	PA	RT NE	PART NUMBER		SP	SPECIFICATION	Z C	•	•	1
ADVANCED MICRODEVICE LM111	VICE LM	M111			1			!	UAIA SUURCE	RCE
LDC RAD. TYPE	PART OTY.		BIAS							
NONE 2.5MEV EL	6	. i	UNK.				} ! !	; ; ; ;	!	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
CUM. DOSE (RADS):	0			75K	,-	150K	7	700		
PARAMETERS	MEAN SD	!	MEAN	SO	MEAN	WEAN SD	E PARIL	1 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2		3 di 1
DVOS MV DIOS NA DIB NA	!	1	1.8	.5 .0992 1.8 .7050 62. 4.800	. 92	 10	1.58 .33 .158 .33 .158 .33 .158 .33 .158 .33 .158 .33 .158 .33 .33 .33 .33 .33 .33 .33 .33 .33 .3	1.58 .3313 9. 3.108	MEAN	

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REF.NO, RECORD 1-73 510

TECHNOLOGY BIPOLAR

COMPARATOR FUNCTION

GENERIC PART NUMBER

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DATA SOURCE	JPL			300K	SD MEAN	1.52 , 4773
SPECIFICATION	; ; ; ; ; ; ; ; ; ;		 	150K	MEAN SD MEAN	
JMBER		BIAS	UNK.		MEAN SD MI	
PART NUMBER		RAD. TYPE PART GTY.		0	MEAN SD	
MANUFACTURER	ADVANCED MICRODEVICE	LDC RAD. TYPE	NONE 2.5MEV EL	CUM.DOSE(RADS):	PARAMETERS	DVOS MV DIOS NA

REMARKS:

SENERIC PART NUMBER	BEK FUNCTION	NO.	TECHNOLOGY		REF.NO. RECORD
111	COMPARATOR	RATOR	BIPOLAR	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	1-74 520
MANUFACTURER	PART N	PART NUMBER	SPECIFICATION	NOIL	DATA SOURCE
ADVANCED MICRODEVICE	VICE LM111		1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	† ! ! ! !	JPL
LDC RAD. TYPE	PAR	BIAS			
NONE 2.5MEV EL	: : : : : : :	UNK.		; ; ; ; ; ;	
CUM.DOSE(RADS):	0	75K	150K	300K	
PARAMETERS	MEAN SD	MEAN SD	MEAN SD	MEAN SD	MEAN SD
DVOS MV DIOS NA DIB NA	. * }	.34 .0495 .8 .8675 68 .8 .192	.6 .1024 2.4 1.473 116. 9.306	.88 .1738 6.6 2.655 196 .15.65	ນເນໝ

OR:		PACE	P(1)
	POOR		

GENERIC PART NUMBER	BER	FUNCTION	N.		TECH	TECHNOLOGY		S.	F.NO.	REF.NO. RECORD	
111	1	COMPARATOR	ATOR	1 [.] !	BIPOLAR	SIPOLAR	[-	1-76	530	
MANUFACTURER		PART NUMBER	UMBER		SPEC	SPECIFICATION	LON	DA	DATA SOURCE	IRCE	
ADVANCED MICRODEVICE	VICE	EM111	; ! ! !	 	! ! :	 	f 	J _P U	JPL		
_	PART	PART QTY.	BIAS							 	
NONE 2.5MEV EL	ı		Z	! ! ! !							
CUM.DOSE(RADS):				75K	π	150K	30	300K			
PARAMETERS	MEAN	SD	MEAN	SD	MEAN SD	SD	MEAN	as	MEAN	SD	
DVOS MV DIOS NA DIB NA			.27 .8 .70.	.27 .0259 .8 .6484 70. 5.620	!	.47 .0464 29466 112. 7.600	. 64 4.8 182.	.64 .0955 4.8 1.432 182. 11.24			

GENERIC	GENERIC PART NUMBER		FUNCTION	Z O		TEC	rechnology		RE	F. NO.	REF.NO. RECORD
111	 	! !	COMPARATOR	ATOR	 	BIPOLAR	BIPOLAR	; 1 1 1 1 1	 	1-77	540
MANUFACTURER	URER		PART NUMBER	UMBER		SPEC	SPECIFICATION	NOI	DATA	DATA SOURCE	IRCE
ADVANCED	ADVANCED MICRODEVICE		LM111	 	 				JAN		
	RAD. TYPE PART QTY.	PART	QTY.	BIAS							
NONE	2.5MEV EL	•	6	CNK CNK]) 			 - - - - -	
CUM. DOSE(RADS):	(RADS):	0		75K	75K	¥ :	150K	Ř	300K]
PARAMETERS		MEAN	SD	MEAN SD	SD	MEAN	SD	MEAN SD	SD	MEAN	SD
DVOS MV DIOS NA DIB NA	 	; f l	1 1 1 1	6.32	.4 .8198 6.32 8.865 82, 31.43	1.25 7.58 118.	1.25 .5372 7.58 4.967 118. 31.37	4.1 6.72 174.	4.1 6.549 6.72 64.77 174. 28.57		

GENERIC PART NUMBER: ************************************				
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	GENERIC PART NUMBER	FUNCTION	TECHNOLOGY	REF.NO. RECORD
		COMPARATOR	BIPOLAR	1-78 550
		PART NUMBER	SPECIFICATION	DATA SOURCE
	ADVANCED MICRODEVICE	LM111		 JQL
	LDC RAD, TYPE PART QTY.			
	V EL	9 UNK.		
	CUM.DOSE(RADS); 0	75K	150K	
	RS MEAN	SD MEAN SD M	MEAN	MEAN SD
	DIOS MA DIB NA	.44 .0531 1.8 .7225 70. 3.896	11103 1.56 .1796 4.4 1.209 10.3 2.216 112. 4.709 172. 6.446	· · · · · · · · · · · · · · · · · · ·
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THE THE PRINCIPLE	FUNCTION	TECHNOLOGY	REF.NO. RECORD
	COMPARATOR	BIPOLAR	1-79 560
MANUFACTURER	PART NUMBER	SPECIFICATION	
ADVANCED MICRODEVICE	LM111	NOTE	DATA SOURCE
LDC RAD. TYPE PART OTY.	T OTY. BIAS		
NONE 2.5MEV EL	9 UNK.		
CUM. DOSE(RADS):	0 75K	150K	XOOR
PARAMETERS MEAN	SD MEAN SD	MEAN SD MEAN	
DVOS MV		1	SU MEAN SD
DIOS NA	1.6 .5578		1.6 .0962
	78. 4.702	128. 7.474 208.	12.32

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GENERI	GENERIC PART NUMBER	MBER	FUNCTION	NO O		TECHNOL	FECHNOLOGY		RE	REF.NO.	REF.NO. RECORD
+++	 	! ! !	COMPARATOR	ATOR		BIPOLAR	LAR		-	1-80	570
MANUFA	MANUFACTURER		PART NUMBER	UMBER		SPEC	SPECIFICATION	NOI	DA	DATA SOURCE	RCE
ADVANCED	ADVANCED WICRODEVICE	EVICE	LM111			 		- - - -	JPL		
TDC	RAD. TYPE		PART OTY.	BIAS				; ; ;		, , ,	; ; ;
NONE	2.5MEV EL	<u>.</u>		Z	 				i.		
CUM. DC	CUM.DOSE(RADS):		0	1	75K	<u>.</u>	150K	30	300K		. I
PARAMETERS	TERS	MEAN	SD	MEAN	SD	MEAN	SD	MEAN	S	MEAN	SD
DVOS MV DIOS NA DIB NA	NA V			61.	.0766 .7616 4.288	3.1 98.1	. 79 . 1720 3.1 1.529 98, 4.478	1.19 7.1 156.	1.19 .2701 7.1 2.667 156. 5.428		

GENERIC PART NUMBER	IRT NUM	3ER	FUNCTION	S.		TECH	TECHNOLOGY		RE	REF.NO. RECORD	RECORD
111	 	i 	COMPARATOR	ATOR	! ! ! !	BIPCLA	BIPCLAR		<u>∓</u> 	1-81	580
MANUFACTURER	ER		PART NUMBER	UMBER		SPEC	SPECIFICATION	NOI	DA	DATA SOURCE	RCE
ADVANCED MICRODEVICE	AICRODE	VICE	LM111	 		1	: : : :	1 	J _P U	PL	
	RAD. TYPE		PART OTY.	BIAS	- :				i	i	; ;
NONE 2.5	2.5MEV EL	! ! !	co	CNK.	 					•	
CUM.DOSE(RADS):	RADS):	0			7.E.K	1	150K	30	300K	i !	; ; ;
PARAMETERS		MEAN	SD	MEAN	SO	MEAN	SD	MEAN	SD	MEAN	SD
DVOS MV DIOS NA DIB NA	 	; 	t t I:	64.		1.8 5.4 101.	1.8 .2214 5.4 1.101 101. 7.015	1.72 11.8 159.			

GENERIC PART NUMBER	IBER FUNCTION	LON		TEC	TECHNOLOGY		L.	REF.NO.	REF.NO. RECORD
.	COMPARATOR	RATOR	! ! ! !	BIP	BIPOLAR	 		1-82	590
MANUFACTURER	PART	PART NUMBER		SPE	SPECIFICATION	NOI.	ب	DATA SOURCE	JRCE
ADVANCED MICRODEVICE	VICE LM111	 	 	1	 			JPL	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
LDC RAD. TYPE	RAD. TYPE PART OTY.	BIAS							
NONE 2.5MEV EL	1 1 1 0 1 1	UNK.		i 	i i ! !	1			! ! !
CUM.DOSE(RADS):	0	75K	~	¥	150K	3	300K	•	
PARAMETERS	MEAN SD	MEAN	SD	MEAN	!	MEAN	SD	MEAN	SD
DVOS MV DIOS NA DIB NA		.39 .0389 1.2 .6962 66. 6.586	. 0389 . 6962 6. 586	3.1	.76 .0822 3.1 .8941 116. 8.553	1. 12 8.8 188.	1. 12 . 1390 8.8 1. 759 188. 11. 14		

REMARKS:

MANUFACTURER PART NUMBER ADVANCED MICRODEVICE LM111 LDC RAD. TYPE PART GTY. BIAS NONE 2.5MEV EL 6 UNK.	a v	BIPOLAR	TION	1-83 DATA SOURCE	600 HURCE
NCED MICRODEVICE LM111 RAD. TYPE PART QTV. 2.5MEV EL 6	α v	SPECIFICA	TION	DATA SO	URCE
RAD. TYPE PART QTY. 2.5MEV EL 6	S			JPL	
RAD. TYPE PART QTY.	S				
2.5MEV EL 6					
			 	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	1 1 1
CUM. DOSE(RADS); 0	75K	150K	300K		
PARAMETERS MEAN SD MEAN			MEAN	SD MEAN	as
DVOS MV	. 295 . 0659 . 7 . 6679	.41 .0718 1. 1.088	3.4 1.731	318]

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GENERIC PART NUMBER	NUMBE		FUNCTION	Z		TECH	TECHNOLOGY		8	F. NO.	REF.NO. RECORD	
111	\$ 	CO	COMPARATOR	TOR	1	BIP	BIPOLAR	1	1 +	1-84	610	
MANUFACTURER			₹	PART NUMBER		SPE	SPECIFICATION	NOI	DA	DATA SOURCE	RCE	
ADVANCED MICRODEVICE LM111	RODEVIO	CE LM	E	i i i	! ! ! ! !	!	 		JPL	JPL		
	RAD. TYPE PART GTY.	PART OT	 _	BIAS								
NONE 2.5MEV EL	2.5MEV EL	7	!	CNK.	1 1 1 1 1 1		 				 	
CUM.DOSE(RADS):	s):	0			75K	₩.	150K	ĕ	300K			
PARAMETERS	WE!	MEAN SD		MEAN	i	MEAN	SD	MEAN	SD	MEAN	QS	
DVOS MV DIOS NA DIB NA			!	. 26 5.3 76.	. 26 . 0625 5.3 5.655 76. 3.800	. 54 2. 1 124.	2.1 1,429 124, 5,005	5.9	.82 .1810 5.9 2.062 212 8 716	1 1	1 1 1 1	

GENERIC PART NUMBER		FUNCTION	NO		TECH	TECHNOLOGY		2	REF.NO. RECORD	RECOR
		COMPARATOR	ATOR	 	1 8 1 5	BIPOLAR	1 1 1 1 1	 - -	1-85	620
MANUFACTURER	<u>.</u>	PART NUMBER	UMBER		SPE	SPECIFICATION	NOI	DA	DATA SOURCE	RCE
NATIONAL SEMI,	 	LM111	 	# # # # # # # # # # # # # # # # # # #		 		15	Jip	1 1
		PART OTY.	BIAS							
TASK4 2.5MEV EL		9	CNK.	 	i ! !	 	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	1 1 1 1 1 1		
CUM. DOSE(RADS):	0		•	75K		250K	7	750K	N	2.5M
PARAMETERS	MEAN	SD	MEAN	S	MEAN		MEAN	SD	MEAN	SD
DVOS MV DIOS NA DIB NA			1.2 10. 360.	1.2 .2208 10. 5.251 360. 17.24	2.2 50.	2.2 .6421 50. 18.49 640. 14.06	5.2 170. 830.	5.2 1.792 170. 46.65 830. 25.76	•	19.2 11.82 395. 90.24 645. 77.98

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REF.NO. RECORD

TECHNOLOGY

FUNCTION

GENERIC PART NUMBER

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111		COMPARATOR	RATOR	1	BIFET	1:		 	1-37	1000
MANUFA	MANUFACTURER	PART N	PART NUMBER		SPEC	SPECIFICATION	NCI	Ö	DATA SOURCE	RCE
NATIONAL	JAL	LF1119	 	 		: : : : :	 	JPL	JPL	
LDC	RAD. TYPE	PART OTY.								
7849	2.5MEV EL	e E	UNK.	i ! ! !	† † †	! ! !	 	 		
CUM. DO	CUM. DOSE (RADS):	0	75K	75K	1	150K	ĕ	300K	9	600K
PARAMETERS		MEAN SD	MEAN	SD	MEAN	:	MEAN SD	SD	MEAN SD	
DVOS MV DIOS NA DIB NA	Z Z Z		5.5 2.851 0 1.040 40. 48.55	5.5 2.851 0 1.040 40. 48.55	8 .06	8. 5.018 .1 27.94 90. 9.406	13.5 6.86 .33 144. 320. 63.2	13.5 6.863 .33 144.2 320. 63.25	26.5 .65 .760.	26.5 16 87 .65 395.7 760. 140.5

EMARKS

GENERIC P	GENERIC PART NUMBER	FUNCTION	NO	TECHNOLOGY		REF.NO. RECORD	RECORD
÷		VOLTAG	VOLTAGE COMPARATOR	BIPOLAR	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	34	1030
MANUFACTURER	RER	PART NUMBER	IUMBER	SPECIFICATION	ION	DATA SOURCE	JRCE
NATIONAL	1 1 1 1 1 1 1	LM111F		1	1 1 1 1 1 1 1	IRT CORP	
	TYPE	ART OTY.	BIAS				
NONE	09-00	; ; ; ; ; ;	UNK.	1	; ; ; ; ; ; ; ; ; ; ; ; ; ; ; ; ; ; ;	 	
CUM.DOSE(RADS):	RADS):	0	10K	100K	300K		
PARAMETERS	SMEAN	OS	MEAN SD		MEAN SD	MEAN	SD
D VOS	MA A	 		9.460 5.53	15.81 12.5	35	1
D 103	V Z			n,	738.0 621	0	
81 G	¥ í		-104. 47.00	-1152 338.	-1451 217.	7.	
∀	90				+3.00 2.7	20	

REF.NO.			TION DATA SOURCE	UNK	MEA
· · · · · · · · · · · · · · · · · · ·	TECHNOLOGY	OMPARATOR	PART NUMBER CA111T		MEAN SD MEAN SD 320
计分子语言 医乳蛋白蛋白蛋白蛋白蛋白蛋白蛋白蛋白蛋白蛋白蛋白蛋白蛋白蛋白蛋白蛋白蛋白蛋白蛋白	**************************************	SENERIC PART NUMBER FUNCTION	MANUFACTURER PART NUMBER CA111T	LDC RAD, TYPE PART QTV.	CUM.DOSE(RADS): O PARAMETERS MEAN SD D VOS MV

	24-22 1280	DATA SOURCE ROCKWELL	50K 100K 50K 100K 50K 100K 50K 100K 50K 100K 50 1.870 0.342 5.152 0.500 1.870 0.342 5.152 0.500 1.54.8 75.81 221.0 79.19
**************************************	GENERIC PART NUMBER FUNCTION BIPOLAR BIPOLAR	PART NUMBER COMMERCIAL	BART GTY. BIAS 8 V+=INV-INPUT=DUTPUT=15V, V-=-15V, NDNINV-INPUT=GND 0 20K 30K 100K 0 AREAN SD MEAN SD MEAN SD MEAN SD EAN SD MEAN SD MEAN SD MEAN SD 0.374 0.123 0.572 0.343 1.870 0.342 5.152 0.500 4.96 6.644 82.38 29.00 154.8 75.81 221.0 79.19
REMAKKS:	GENERIC PART NUMBER	MANUFACTURER	ERS MY NA NA

REMARKS:

REF.NO. RECORD 24-21 1290

TECHNOLOGY

BIPOLAR

VOLT COMPARATOR

FUNCTION

GENERIC PART NUMBER

111

DATA SOURCE

SPECIFICATION

PART NUMBER

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RAD. TYPE PART GTY.

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COMMERCIAL

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			NOT 1000		ב ע	I ECHNOLOGY		R	F.N0.	REF.NO. RECORD
=		VOLT	VOLT. COMPARATOR	ATOR	BIP	BIPOLAR	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	24	24-20	1300
MANUFACT	MANUFACTURER	PART	PART NUMBER		SPE	SPECIFICATION	NOI.	OA	DATA SOURCE	JRCE
GENERA	GENERAL ELECTRIC	1 	LM111CHIP	} 	NOO I	COMMERCIAL		. KO	ROCKWELL	
rpc	RAD. TYPE	PART OTY.	_							
UNK.	09-00	7	NI=+A	V+=INV-INPUT=OUTPUT=15V, V-=-15V, NONINV-IMPUT=GND	=0UTPU	T=15V.	V-=-15V, NONINV-IMPUT=GN	V. NON	NV-IN	UT=GND
CUM. DO	CUM. DOSE (RADS):	0		ŤÓ.		30K	7	100K		
PARAMETERS		MEAN SD	MEAN	SD	MEAN	SG	MEAN SD	SD	MEAN	SD
D VOS D 10S D 11B	M W W		29.68	0.913 0.353 29.68 4.814	2.986 75.34	2.986 0.448 75.34 29.16	8.533 1.063 93.95 65.15	1.063	 	! ! !

REMARKS:

-.391 0.539 -140. 208.2 450.3 399.6

0.015 0.190 -239. 177.7 342.2 112.3

-.074 0.132 -7.76 127.5 199.9 108.6

-.067 0.113 -26.4 36.96 70.81 35,48

≥××

D VOS D 10S D 11B

S

MEAN

SD

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MEAN

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MEAN

SD

MEAN

PARAMETERS

0

CUM. DOSE (RADS):

300

V+=INV-INPUT=OUTPUT=15V, V-=-15V, NONINV-INPUT=GND

REMARKS:

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SENERIC PART NUMBER	UMBER	FUNCTION	NO		TECH	TECHNOLOGY		A.		FCORD	
	! ! ! !	COMPARATORS	ATORS	 	ВІРС	BIPOLAR	; ; ; ; ;	15	! !	1660	
MANUFACTURER		PART NUMBER	UMBER		SPEC	SPECIFICATION	NOI	DA	DATA SOURCE	CE	
VATIONAL SEMICON.	NO	LM111	(103	(10304BHA)			 		MOTOROLA		
	RAD. TYPE PART QTY.	r OTY.	BIAS								
7810 C0-60	4	 	V+=+15	=- \ . \ \ .	-=-15V, VIN+=G	ND=+NI/	D, VIN	=+5V,	V+=+15V, V-=-15V, VIN+=GND, VIN-=+5V, VOUT=V+		
CUM. DOSE(RADS):		C		25K		SOK	4	100K	ļ	1 1 1	
ARAMETERS	MEAN	SD	MEAN		MEAN		MEAN		MEAN	SD	
AVDL K	500.0	500.0 00000 .9850 .3646	476.3	476.3 50.89 1,693 .9504	392.8	392.8 97.93	241.5 49.89	49.89	† . . .		
	24.00	24.00 7.036	280.5 44.25	44.25	638.8	105.4	1184. 244.7	244.7			
I I O	763	.2750	-30.8	42.92	-52.5	108.2	-43.8	182.3			
ICC MA	2.588	.6088	2.563	.6343	2.600	6055	2.575	.6292			
VSAT V	. 2065	.0064	.2110	.0050	.2228	.0053	, 2378	.0046			

GENERIC PART NUMBER	UMBER	FUNCTION	NO		TECH	TECHNOLOGY		S.	F.N0.	REF.NO. RECORD
111	 	VOLTAGE	VOLTAGE COMPARATOR	ARATOR	BIPOLA	BIPOLAR	; ; ; ;	08	805-3	4470
MANUFACTURER		PART NUMBER	UMBER		SPE	SPECIFICATION	ION	DA	DATA SOURCE	JRCE
NSC	 	LM111	i. 1 1 1 1 1	1	:	1 1 1 1	! ! !	11	11	! ! !
LDC RAD. TY	RAD. TYPE PART OTY.	OTY.	BIAS	1	1	 	; ; ;	 		} 1 1 1
•	ດ		UNK.							
CUM. DOSE (RADS):			12	12.5K		25K	1	SOK	,	100K
PARAMETERS	MEAN	CS.	MEAN	SD	MEAN	SD	MEAN		MEAN	SD
-IB+ NA	53.11	6.79	204.1	55.70	208.3	46.85		41.13		9 42,14
-10S NA	-1.39		.667	.667 2.960	1.944	1.944 5.413		3.555 5.027		5.667 9,173
-VOS	.633	304	.5052	.3409	.3652	.6388		7991	•	-, 161 1,404
ISINK	15.28	1.787	15.22	15.22 1.833	14.78	1.856		1.841	٠	3 1.835

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REMARKS:

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ENERIC PART NUMBER: 111 ***************	
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GENERIC PART NUMBER	
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GENERIC PART NUMBER FUNCTION	FUNCTION	TECHNOLOGY		REF.NO. RECORD
MANUFACTURER	PART NUMBER	SPECIFICATION	DATA SQURCE	URCE

V+=12V; V-=-12V BIAS RAD. TYPE PART GTY. Į, 09-00 7804*

MEAN 2.056 3.026 -121. MEAN 1.428 0.931 1.577 0.929 2.030 2.317 -100. 12.36 37.00 16.52 MEAN 0.697 0.618 0.911 0.627 -0.25 0.506 -38.7 0.777 0.072 0.008 0 MEAN CUM, DOSE (RADS): > > Z Z Z Z PARAMETERS VOS(1) VOS(2) IOS IB IOH

(2)V0=3.7V.(1) VO=0.7V. REMARKS: *EP.

GENERI	GENERIC PART NUMBER	BER	FUNCTION	NO		TEC	rechnology.		RE	F. NO.	REF.NO. RECORD
1-1		 	COMPARATOR	ATOR	. 	BIP	BIPOLAR	 	5	1037	5390
MANUFACTURER	CTURER		PART NUMBER	UMBER		SPE	SPECIFICATION	NOI	OA	DATA SOURCE	JRCE
AMD	1 1 2 4 1 1 1 1	 	AM111H	i ! ! ! !	; 		 	! ! !	TRE	- X-	1
207	RAD. TYPE		PART OTY.	BIAS							
7652	09-00	i ! !	5	V+=+15	V+=+15V; V-=-15V	-15V.	1. 	 	! ! ! !	i 	; ! ! ! !
CUM. DO	CUM. DOSE(RADE):		0	7	100K	Ř.	300K	ŭ	500K		
PARAMETERS	TERS	EAN		MEAN		MEAN	S	MEAN	1	MEAN	SO
10S 1B 1HL 1LH	PA PA N	14.00 103.2 404.4 278.0	14.00 2.850 103.2 19.83 404.4 26.48 278.0 26.87	9.36 160.4 406.0 280.0	9.36 2.302 160.4 29.62 406.0 25.96 280.0 28.28	4.500 350.2 404.2 279.0	4.500 2.092 350.2 68.40 404.2 23.89 279.0 32.92		3.750 3.228 430.2 211.9 422.4 23.43 274.8 36.12	 - 	

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REMARKS:

GENERIC PART NUMBER:

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ENERIC PART NUMBER	PART	NUMBEI		FUNCTION	NO		TECH	TECHNOLOGY		S.	F. NO.	REF.NO. RECORD
-	 	1 1 1 1	. <u> </u>	PRECIS	ION CON	PRECISION COMPARATE		BIPOLAR	 	0	1067	5690
IANUFACTURER	TURER			PART NUMBER	UMBER		SPEC	SPECIFICATION	ION	OA.	DATA SOURCE	JRCE
QW		 	1	AM111H	; ; ; ; ;	! ! ! !	; { } ! ! !	 	 	TRW	TRW	 - - - - -
	RAD.	RAD. TYPE PART OTY.	PART	QTY.	BIAS							
7:	CO-60 + N*	* Z	6		V+=+15	V+=+15V; V-=-15V;	- 15V.	! ! ! !	1 1 1 1 1	 	; f l l	
:UM.DOSE(RADS):	E(RAD!	: (3	0		*N+100K	oc So	*N+300K) X	*N+500K	¥0C		
ARAMETERS	ERS	¥ E		SO	MEAN	ŧ	MEAN SD	S	MEAN	!	MEAN	SO
O(SAT)	! 		6942	6942 .0266	.7188	7188 .0257	7300	7300 .0294	.7352	.7352 .0287	i I I	1 ! ! !
SOS	≩ :		435	1.064	1.620	1.620 1.044	1.944	.8920	2.274	6906		
0.5	Ž		630	1630 . 5958	. 1060	1060 6, 159	2.817	817 4.356	4.450	4.450 4.401		
20	Ž	•	6.4	-36.4 4.425	- 133	13.21	- 163	-163 18.79	- 184	-184 26.41		

REMARKS: *NEUTRON RAD. = 6.E11 N/SQCM.

GENERIC	GENERIC PART NUMBER		FUNCTION	2		TECH	TECHNOLOGY	.	œ		RECORD
112	; ; ; ; ; ;		OP AMP	 	{ ! ! ! ! !	BIPOLAR	IPOLAR	 	. C	35	1040
MANUFACTURER	TURER	•	PART NUMBER	JMBER		SPEC	SPECIFICATION	LION	۵	DATA SOURCE	RCE
ADVANCED MICRO	MICRO	1	LM112H	I I I I	 	† 	i 	1 1 1 1 1 1	. 	IRT CORP	I I I I
	RAD. TYPE PART OTY.	E PART	0TY.	BIAS		ē					
NONE	09-00			\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	 		i 	 	1 - - - 	; ; ; ; ; ;	i
CUM. DOSE	CUM. DOSE (RADS):	0		÷	13K	, (1)	52K	17	170K	Ř	360K
PARAMETERS	RS	MEAN	SD	MEAN	SD	MEAN	SD	MEAN	SD	N T	SD
V10	> \ E Z	0.040		-1.00		0.030] 	-1.20		1.200	
18	Z Z	0.900		1.200		2.100		4.800		10.20	
GBW	KHZ	571.0		558.0		552.0		498.0		474.0	

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GENER I	GENERIC PART NUMBER	WBER	FUNCTION	No		TECI	TECHNOLOGY		2	REF.NO. RECORD	RECORD
113		! ! !	REFERENC	REFERENCE DIODE	JDE	BIP	BIPOLAR	! ! !		1048	5500
MANUFACTURER	TURER		PART NUMBER	UMBER		SPE	SPECIFICATION	NOI	70	DATA SOURCE	RCE
NATIONAL	7	 	LM113	f 	; ; ; ;	!		!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!		TRW	
LDC	RAD. TYPE		PART QTY.	BIAS	ŧ						
7746	09-00	D] 	-LEAD	@+5V;	+LEAD	-LEAD @+5V; +LEAD VIA 10K TO GND	TO GN	e.		
CUM.DO	CUM.DOSE(RADS):	0	·	7	100K	Н	300K	ŭ	500K		
RAMETERS	TERS	MEAN SD	S	MEAN	i	MEAN		MEAN		MEAN	SD
VR® 1MA	> X X X	1234. 1234.	1234. 15.45 1234. 14.99		1230. 14.99 1234. 14.91		1226. 14.79 1231, 14.63	1227.	1227. 16.53 1228. 14.26	! ! !	1 ! ! !

1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		1 1	1 1 1								
11331			ANALOG	ANALOG SWITCH	-	BIFET	_	 	37	37-1	140
MANUFAC	MANUFACTURER		PART NUMBER	UMBER		SPEC	SPECIFICATION	NOI	Õ	DATA SOURCE	JRCE
NATIONAL	AL	# 	LF11331		! ! !	;	1	; ; ; ;	141	IRT	
rpc	RAD. TYPE	E PART	PART OTY.	BIAS							
N C	N + 09-00	2	5	YES, B	SUT EXA	YES, BUT EXACT LEVEL UNKNOWN	L UNKN	OWN.	; ; ; ;	 	
CUM.DO	CUM.DOSE(RADS):		0	500K*	* *	1.25M**	<u>*</u>			٠	
PARAMETERS	TERS	MEAN	SD	MEAN	SD	MEAN	SD	MEAN	SD	MEAN	SD
RON ***	WHO *	144.5	5.446	142.0		151.8	151.8 9.634	! ! !	; ; ;	i ! !	
ID(OFF)	¥ ¥	0.300	0.000	•	.0500	.000	.0816				
YIN:	>:	1.325	1.325 .0173	_	.360 .0183	1.423 .	.0263				
VIN	> ¥	1.313 3.558	6323	6.415	. 0222	3.580	6407				
PAR	PARAMETERS	CONT	S	REC.	141.	REC. 141.					
KEMAKK	BENDERC: *+1 JE10 N/COCM	2012				•				1	

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GENERIC	GENERIC PART NUMBER	MBER	FUNCTION	NO		TECH	TECHNOLOGY	1 1 1	ו אב ו	REF.NO.	2
11331			ANALOG	ANALDG SWITCH	-	BIFET	—		3	37-1	141
MANUFACTURER	rurer		PART NUMBER	UMBER		SPEC	SPECIFICATION	NO	à	DATA SOURCE	JRCE
LONA	7 1 1	į.	LF11331	 	: : : : :	† † †	1 1 1 1 1] t i. į į	; t t	i 	
	RAD. TYPE		PART 677.	BIAS			 	; ;	i ! !		
CUM. DOSE (RADS):	E(RADS):	•	,	500K*	* *	1.25M**	*				
PARAMETERS	ERS	NA W	SD	MEAN	SD	MEAN		MEAN	SD	MEAN	as
TON TOFF	N S S	1.990 832 84	.3536 131	5.025 996 93	1.142	2.215 986 97	. 3911 98 8	! ! !	 	† - - 	\$ [
PARAMETERS AND DOSAGES CONTINUED. ON REMARKS: *+1.	PARAMETERS AND DOSAGES CONTINUED, ON REC. 142 REMARKS: *+1.3E12 N/SQCM.	REC. 12 N/SG	142. QCM.	**+2.5E12 N/SGCM.	12 N/S	GCM.	CONTINUED FROM RECORD 140.	ED FRO	M REC	JRD 140	Ċ
**************************************	**************************************	*****	*********	* * * * * NO	* * * *	********	**********	* * * *	* 2	F. NO.	**************************************
11331			ANALOG	ANALOG SWITCH	-	BIFET		 		37-2	142

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GENERIC PART NUMBER: 11331

CUM.DOSE(RADS): 0 144K* 250K** PARAMETERS MEAN SD MEA
MEAN 146 NA 1.7 NA 1.328 NA 3.558 ERS CONT.

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DATA SOURCE

SPECI: CANTON

PART NUMBER

MANUFACTURER NATIONAL BIAS

PART OTY.

RAD. TYPE

LDC

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GENERIC PART NUMBER	Œ	NO		TEC	TECHNOLOGY		ĽΥ	REF.NO. RECORD	RECORD
11331	ANALOG	ANALOG SWITCH		BIFET	ET		m	37-2	143
MANUFACTURER	PART N	PART NUMBER		SPE	SPECIFICATION	ION	٥	DATA SOURCE	RCE
NATIONAL	LF11331		† 				!	!	E
LDC RAD. TYPE	PART OTY.	BIAS							
CUM.DOSE(RADS):	0	144K*	*	250K*	* *				
METERS M	MEAN SD	MEAN	SD	MEAN	SD	MEAN	SD	MEAN	es.
TOFF NS	1.990 0.354 710 169 73.8 6.3	5.023 835 90.3	1.146 259 5.6	2.215 0.391 863 263 95.0 8.2	0.391 263 8.2				
CONTROL DATA ON RECORDS 144 THRU 147.									
REMARKS: CONTINUED FROM REC: 142.	FROM REC.	142.	6 + *	3E11 N	* + 9.3E11 N/SQCM.	* *	1. 1E	** + 1.1E12 N/SQCM.	E

11331 A MANUFACTURER P			TEC	TECHNOLOGY	•	œ	REF.NO. RECORD	RECOR
	ANALOG SWITCH	ІТСН	BIFET			1 6	37-3	144
	PART NUMBER	ER	SPEC	SPECIFICATION	ION	-	DATA SOURCE	IRCE
NATIONAL	LF 11331	† † † † †	<u> </u>		1	!	1	
LDC RAD, TYPE PART QTY.	OTY. BIAS	15						
* * * * * * * * * * * * * * * * * * *					 		1	
CUM.DOSE(RADS): 0	36	500K***	1.25M**	*				
PARAMETERS	SD MEAN	OS N	MEAN	SD	MEAN	SD	MEAN	SD
MH0 AN		135	138	! ! !	1 1 1		1	1
	' o	0.1-	. +					
>:	-	.37	1.38					
> ;	*	33	1.33					
METE		3.82	3.84					
ĭ	** KEC.	145.	10000					

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SENERIC PART NUMBER: 11331	í
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MANUFACTURER NATIONAL LDC RAD. TYPE CUM. DOSE (RADS):	PART	ANALOG SWITCH	BIFET	1	37-3	145
JFACTUREF TONAL RAD.	PART					
RAD.	PART	NUMBER	SPECIFICATION	ATION	DATA	DATA SOURCE
RAD.	PART	331	; ; ; ; ; ;		1	! ! ! ! !
.DOSE(RADS):		BIAS		! 	 	•
DOSE(RADS):						
	0	ğΪ	1.25M**		i !	1
AMETERS	MEAN SD	MEAN SD	MEAN SD	MEAN		MEAN SD
IEE MA TON NS TOFF NS	2.10 640 75	2.15 630 85	2. 15 620 85			! ! ! !
CONTROL DATA CONTINUED ON RECORD 146						
**************************************	**************************************	**************************************	**************************************	************	* * !	* ! ! ! ! ! ! ! ! ! ! ! ! ! ! ! ! ! ! !
11331	1	ANALOG SWITCH	RIFFT		KET .NO.	ו א ה
MANUFACTURER	PART	PART NUMBER	SPECIFICATION	TION		146 Source
NATIONAL	LF11331	31		1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		
RAD. TYPE	PART 01Y	BIAS				
CUM.DOSE(RADS):	•	144K*	1	# f f f f f f f f f f f f f f f f f f f	 	
	MEAN SD	MEAN SD	MFAN SD	MEAN	1 2	į
	!	!			SU MEAN	AN SD
_	137 1.6 0.1 1.30	135 0.7 0.1- 1.37	138 0.7 0.1-			
INL CC	3.81	1.33 3.82	1.33 3.84			

PAGE A- 67

REF.NO. R	37–3 147	SPECIFICATION DATA SOURCE				SD MEAN SD MEAN SD		
TECHNOLOGY	BIFET	SPECIF	f		250K**	MEAN	2.15 620 85	
FUNCTION	ANALOG SWITCH	PART NUMBER	LF11331	r. BIAS	144K*		2.15 630 85	
	ANA	PARI	-	E PART OTY.	0	MEAN SD	2.10 640 75	
GENERIC PART NUMBER	11331	MANUFACTURER	NATIONAL	LDC RAD. TYPE	CUM.DOSE(RADS):	PARAMETERS	IEE MA TON NS TOFF NS	END OF

GENER1	GENERIC PART NUMBER	WBER	FUNCTION	NO	TECH	TECHNOLOGY		REF.NO.	REF.NO. RECORD
11331		1 	QUAD ANAL	QUAD ANALOG SWITCH	BIFET			1045	5470
MANUFA	MANUFACTURER		PART NUMBER	IUMBER	SPE	SPECIFICATION	· N	DATA SOURCE	URCE
NATIONAL	JAL	t 1 1	LF11331D	110	! ! ! !	 	; ; ; ;	TRW	
LDC	RAD. TYPE PART QTY.	PART	C OTY.						
7752	09-00		5	V+(PIN 12)=+15V; V-(PIN 5)=-15V.	15V; V-	5V; V-(PIN 5):	15V.	[]. { 	
CUM. DO	CUM.DOSE(RADS):			100K	S.	300K	500K		
PARAMETERS	TERS	MEAN SD	WEAN SD	MEAN SD	MEAN SD	SD	MEAN SD	MEAN	SD

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CUM.DOSE(RADS):	0		₽	100K	3	300K	ũ	500K		
	# # # # #	11111	111111111	11111	111111111	1	1 1 1 1	1 1 1 1	1	#
PARAMETERS	MEAN	S	MEAN SD	SD	MEAN SD	SD	MEAN SD	S	MEAN	SD
1 1 1 1 1 1 1 1 1	1 1 1	1 1 1 1	11111				1 1	11111	1 1 1 1	1
RON DHMS	168.8	12.40	173.4 5.000	5.000		183.2 19.34	210.0 69.00	69.00		
IS(OFF) NA	0.430	0.045		0.303		1.276	3.340	1.732		
T(ON)(1,2) NS	391.0	123.4		274.2		752.3	2084.	3045.		
T(0FF)(1,2)NS	55.40	0.548		1.414		1.789	47.80	2.280		
T(ON)(1.3) NS	555.0 222.5	222.5		427.7		1252.	2354.	3568.		
T(0FF)(1,3)NS	47.70	4.577		4.604		2.967	40.00	5.099		

REMARKS: (1)VIN=+-3V, VR=O, VEE=-15V. (2)VCC=+15V, VS=+5V. (3)VD=-8V, VS=-5V.

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GENER	GENERIC PART NUMBER	UMBER	FUNCTION	TON		TEC	TECHNOLOGY		æ	F. NO.	REF.NO. RECORD
117		; 1 1 1	3-TERN	A ADJ R	3-TERM ADJ REGULATR	1	BIPOLAR			805-4	4480
MANUF	MANUFACTURER		PART NUMBER	IUMBER		SPE	SPECIFICATION	NOI	Q	DATA SPURCE	RCF
NSC		 	LM117H			;	 	1		1	1
LDC	RAD. TYPE	E PART	PART QTY.	BIAS							
109	09-00	9) 	UNK.	 	!			1		
CUM. DO	CUM.DOSE(RADS):	3		12.5K	ű X		25K	ស	SOK	¥	100K
PARAMETERS	TERS	MEAN	S	MEAN	SD	MEAN	SD	MEAN	SD	MEAN	So
LOAD REG VOUT LINE REG	REG MV V V REG MV	15.33 5.055 11.43	15.33 .5164 5.055 .0138 11.43 .7202		16.33 .6831 5.063 .0144 12.83 1.025	16.33 5.053 13.12	16.33 .5164 5.053 .0147 13.12 1.208	17.08 .6646 5.051 .0153	.6646		17.00 .7958 5.044 .0163

	MULTALITATION LINE	NO.	TECHNOLOGY	uz.	REF.NO.	RECORD
117	VOLTG	VOLTGE REGULATOR	UFET		1006	5050
MANUFACTURER	PART I	PART NUMBER	SPECIFICATION		DATA SOURCE	RCE
NATIONAL	LM117K	· · · · · · · · · · · · · · · · · · ·	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		TRW	
LDC RAD. TYPE	PART OTY.	BIAS				
8112 CO-60	i i i i i	VIN=40V(0.1UF TO GND), ADJ VIA 1K TO GND	TO GND), AD	VIA 1K TO	GND	; ;
CUM. DOSE(RADS);	0	SOK	100K	200K		300K
PARAMETERS	MEAN SD	MEAN SD M	MEAN SD	MEAN SD	MEAN	SD
LOAD REG MV LINE REG MV VO V	6.8 1.3 3.4 1.9 5.134 0.067	6.2 0.4 2.2 0.4 5.133 0.069	7.4 0.5 5.8 3.8 5.132 0.070	8.2 1.3 9.4 5.0 5.126 0.070		5.4

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REF.NO. RECORD

TECHNOLOGY BIPOLAR

FUNCTION OP AMP

GENERIC PART NUMBER

118

DATA SOURCE

SPECIFICATION

PART NUMBER

MANUFACTURER

NATIONAL

MEAN

S

MEAN

S

MEAN

S

MEAN

O MEAN SD

PARAMETERS

CUM. DOSE (RADS):

V+=+15V, V-=-15V

œ

LDC UNK.

BIAS

PART OTY.

RAD. TYPE

13.80 11.00 -99.3 29.50 333.3 62.30 17.50 11.50

6.000 5.230 -96.9 25.50 154.3 40.40 18.70 4.000

0.460 1.300 -83.0 26.90 81.60 25.10

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V0S 10S 1L REMARKS:

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GENERIC PART NUMBER	RT NUME		FUNCTION	NO		TECH	FECHNOLOGY		22	F.NO.	REF.NO. RECORD
118			OP AMP			BIPC	BIPOLAR		88		130
MANUFACTURER	ER	1	PART NUMBER	UMBER		SPEC	SPECIFICATION	ION	DA	DATA SOURCE	JRCE
ADVANCED MICRO	ICRO		LM 118	; 	! ! ! !	1 1 4 6	! ! !		I II	IRT CORP	
	RAD. TYPE	PART OTY.	0TY.	BIAS							
7510P C0-60	09	្រ	 	V+=+1	V+=+15V, V-=-15V	-15v	 		 	; ; ; ;	! ! !
CUM.DOSE(RADS):	ADS):	0	. !		13K	ស	52K				
PARAMETERS		MEAN	SD	MEAN	GS .	MEAN	SO	MEAN	SO	MEAN	SD
VIO		000	 	1.000	! ! !	FAIL	1 6 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	 	1 1 1 1	; ;	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
18	Z Z	0.08		198.0		FAIL				,	
IQ GBW	•	6.00		6.10		FAIL					

GENERIC	GENERIC PART NUMBER	BER	FUNCTION	NO		TECH	TECHNOLOGY		R	F . NO.	REF.NO. RECORD	
118		!	FET SW	итсн (FET SWITCH (6 CHAN)		CMOS	 	24	24-45	1200	
MANUFACTURER	TURER		PART NUMBER	JUMBER		SPEC	SPECIFICATION	ION	DA	DATA SOURCE	RCE	
SILICONIX	×	7	G118			COM	COMMERCIAL	; ! ! ! !	8	ROCKWELL	† 	
LDC	RAD. TYPE		PART OTY.	BIAS								
	09-00		2	PINS	1,2,3 (PINS 1,2,3 (G1,G2,G3) TO -20V, EACH VIA 100KDHM.*	33) 10	-200'.	ACH VI	-20V, EACH VIA 100KDH	OHM.	
CUM.DOSE(RADS):	(RADS):		0	20K	20K	(D)	50K	7	100K	8	200K	
PARAMETERS	RS	MEAN	SO	MEAN	SD	MEAN	S	MEAN SD	SD	MEAN	SD	
D RDS(ON)OHMS D IGSS NA D IS(OFF) NA D VGS-TH V	DOHMS NA NA V			3.433 146 0.395 1.671		7.383 1.294 296 0.114 0.391 0.026 3.185 0.187	7.383 1.294 296 0.114 5.391 0.026 3.185 0.187	13.55 3.89 0.638 0.15 1.198 0.06 4.787 0.28	13.55 3.992 0.638 0.158 1.198 0.061 4.787 0.283	103.1 122 0.783 7.415	103.1 18.31 122 0.154 0.783 0.137 7.415 1.028	

REMARKS: * ALL OTHER PINS (4 THRU 14) @ GND (I.E., G4-G6,B,D, AND S1-S6).

MANUFACTURER PART NU LM118H LDC RAD. TYPE PART GTY.		BIPOLAR SPECIFICATION COMMERCIAL	IGN DA	1. 2 i	1270 1270
ACTURER NAL RAD. TYPE PART	⊋ ¦ +	SPECIFICAT	ION DA	TA SOUR CKWELL	U
NAL RAD. TYPE PART	+	COMMERCIAL	8	CKWELL	! ! ! ! ! !
RAD. TYPE				1	
CO-60				1 1 1 1 1 1	
3	V+=15V, V-=-	12-ANTNON ACL	V+=15V, V-=-15V, NONINV-INPUT=5V, INV-IN=OUT	IN=OUT	
CUM.DOSE(RADS): 0	30K	100K	300K		
PARAMETERS MEAN SD	-	MEAN SD	MEAN SD	MEAN	SD
D VOS MY D IOS NA D IIB NA	-1.41 0.173 -17.7 16.97 37.10 11.64	16.42 28.78 -23.8 27.49 106.3 43.46	-1.30 0.658 -12.5 19.52 210.8 24.60) 	

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REF.NO. RECORD

TECHNOLOGY BIPOLAR

FUNCTION OP AMP

GENERIC PART NUMBER

118

DATA SOURCE

SPECIFICATION

PART NUMBER

MANUFACTURER

AMD

LM118

RAD. TYPE PART OTY. BIAS

09-00

LDC 7510P

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CUM. DOSE (RADS):				13K	•	52K				
PARAMETERS	MEAN SD	SD	MEAN SD	MEAN SD	MEAN	MEAN SD	MEAN	MEAN SD	MEAN SD	SD
	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!	1 1 1 1	 	1 1 1	1 1 1 1	1 1 1 1		11111	1 1 1
	-		-		FAIL*					
IIO NA	0.1		9.0		FAIL*					
¥	189		198		FAIL*					
. V	0.9		9.1		FAIL*					
KHZ	14929		14302		FAIL*					

V+=15V, V-=-15V, TYPICAL APPLICATION CIRCUIT

REMARKS: *ALL DEVICES HAD FAILED WITH OUTPUT LATCHED TO NEGATIVE SUPPLY VOLTAGE

GENERIC	GENERIC PART NUMBER	BER	FUNCTION	NO		TEC	TECHNOLOGY		. REF	. NO.	REF.NO. RECORD
118			OP-AMP			BIP(BIPOLAR		12	l J i	1690
MANUFACTURER	TURER		PART NUMBER	UMBER		SPE	SPECIFICATION	NOI	DAT	DATA SOURCE	IRCE
NATIONA	NATIONAL SEMICONDUCT	DUCT	LM118H	i 1 1 1 1	# # # # #	!	! !	; 	MOT	MOTOROLA	
	RAD. TYPE	: PAR	PART OTY.	BIAS							
7820	09-00	4	† 	V+=20	, V==-	20V, V	IN+=3V.	V+=20V, V-=-20V, VIN+=3V, VIN-=VD, RL=2K	O, RL=2	×	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
CUM.DOS	CUM.DOSE(RADS):		0		25K	•	SOK				
PARAMETERS	ERS	MEAN	S	MEAN	S	MEAN	SO	MEAN	SD	MEAN	SD
AVOL		225.8	225.8 52.70	246.5	76.43		263.3 104.1	; ; ;	! ! !	!	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
TIN	¥ Z	96.25	16.07	127.0	23.92	-					
110		250	1.500	5000 1	.5000 1.732 6.150 4435	- 6	2.217				
h 1.))		,	2				

REMARKS:

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GENERIC PART NUMBER: 118	¥
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NUMBER:	*
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GENERI	GENERIC PART NUMBER	WBER	FUNCTION	NO		TEC	TECHNOLOGY		22	REF.NO. RECORD	RECORD
8.1			OP AMP	_	! ! ! !	BIPOL	BIPOLAR	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	, 6	805-5	4490
MANUFA	MANUFACTURER	- - - - - -	PART NUMBER	UMBER		SPE(SPECIFICATION	ION	Ď	DATA SOURCE	SCE
NSC			LM118	 	 	 !			17	11	
rpc	RAD. TYPE		PART OTY.	BIAS							
*	09-00	្រ		C NK	! ! ! !		1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1				1 1 1 1 1 1
CUM. DO:	CUM.DOSE(RADS):	0	! ! !	12	12.5K	~	25K	ເກ	50K	5	100K
PARAMETERS	TERS	MEAN	SO	MEAN	SD	MEAN	S	MEAN	S	MEAN	SD
-V0S IBIAS -I0S AOL	M N N N N N N N N N N N N N N N N N N N	.800 1.471 143.10.37 .6 1.517 110.5 5.553	800 1.471 143.10.37 .6 1.517 0.5 5.553	.802 147 1.3 113.1	1.472 11.58 12.092 6.061		. 774 1.472 163.8 11.26 1.14 2.175 113.8 5.779	. 786 197.8 . 12 118.4	.786 1.473 197.8 16.04 .12 2.570 118.4 8.019	.786 1.482 245.6 24.87 -1.54 4.119 116.0 8.285	.786 1.482 45.6 24.87 1.54 4.119 16.0 8.285

REMARKS: *7940,7902.

GENERIC PART NUMBER	FUNCTION	TECHNOLOGY		REF. NO	REF.NO. RECORD
	OP AMP	BIPOLAR	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	1007	2060
MANUFACTURER	PART NUMBER	SPECIFICATION	NOI	DATA SOURCE	URCE
NATIONAL	LM118	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		TRW	F
RAD. TYPE PAR					
09-00	4 V+=15V, V-=-	V+=15V, V-=-15V, IN- 10K TO GND, IN+ 6.8K TO GND,*	TO GND,	IN+ 6.8K T	0 GND, *
CUM.DOSE(RADS): 0	100K	150K			
PARAMETERS MEAN	SD MEAN SD	MEAN SD	!	SD MEAN	OS
DB 108.3 MV -0.94 NA -0.78	109.8 -2.76 -8.08	104.5 3.87 -5.15 4.230	 		1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1

REMARKS: * RF=2ÓK, VOUT 10K TO GND.

GENERIC	GENERIC PART NUMBER	BER	FUNCTION	NO.		TEC	TECHNOLOGY		8	F.NO.	REF.NO. RECORD	
119		·.	DUAL C	DUAL COMPARATOR	OR	BIPO	BIPOLAR		¦ ↓ ¦	1-86	630	
MANUFACTURER	TURER		PART NUMBER	UMBER		SPEC	SPECIFICATION	NO.	DA	DATA SOURCE	IRCE	
ADVANCE	ADVANCED MICRODEVICE	VICE	LM119	; { ; ; ; ; ;	! ! ! !		; ; ; ;	• • • •	JAD		; ; ;	
	RAD. TYPE		PART QTY.	BIAS								
NONE	2.5MEV EL	! ! !	4	UNK.	[; 6 1 6 6 6 6	i 	! ! ! !	f 	; ; ; ;	 	
CUM.DOS	CUM.DOSE(RADS);		0	7	75K	±.	150K	3	300K			
PARAMETERS	ERS	MEAN	S	MEAN	S	MEAN	SD	MEAN	SD	MEAN	SD	
DVOS MV DIOS NA DIB NA ISINK MA	4	19.4		. 37 . 2220 5.2 4.254 130. 6.127 18.16 . 4041	.37 .2220 5.2 4.254 130. 6.127 8.16 .4041	.53 6.2 235. 17.56	.53 .3286 6.2 7.368 235. 12.22 7.56 .4203	. 72 11.6 390. 17.2	. 72 . 4484 11.6 4. 792 390. 16.86 17.2 . 3948	: 	! ! ! !	•

REMARKS:

GENERIC PART NUMBER		FUNCTION	NO.		TEC	TECHNOLOGY		5	. NO	REF.NO. RECORD
119		DUAL C	DUAL COMPARATOR	TOR	BIPOL	BIPOLAR		+	1-87	640
MANUFACTURER		PAR NUMBER	UMBER		SPEC	SPECIFICATION	NOI	Ö	DATA SOURCE	JRCE
ADVANCED MICRODEVICE		LM119	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		!				JPL	
LDC RAD. TYPE	PART	PART OTY.	BIAS							
NONE 2.5MEV EL			UNK.		 	! ! ! !	1		 	; ! !
CUM. DOSE(RADS):	•		-	75K	¥	150K	ř	300K		
ETERS	MEAN	S	MEAN	SD	MEAN	SD	MEAN	SO	MEAN	SD
DVOS MV			.445	3072	. 56	.3534	. 745	.3632	! ! ! !	! !
DIB	. !		122.	122. 16.41	198	17.60	318.	318. 28.67		
ISINK MA	17.2		17.12	.6377	16.52	. 5909	16.	.6602		

REF.NO. RECORD

TECHNOLOGY

DUAL COMPARATOR

FUNCTION

GENERIC PART NUMBER

650

DATA SOURCE

SPECIFICATION

PART NUMBER

ADVANCED MICRODEVICE

MANUFACTURER

BIAS CK.

RAD. TYPE PART GTY.

2.5MEV EL

NONE

CUM. DOSE (RADS):

SD

MEAN

S

MEAN

MEAN

SD

MEAN

SD 0

MEAN

PARAMETERS

.73 .6564 27.6 27.72 370. 36.57 18.02 .7703

14.32 22.75 .7500 66799 S

.63 22. 230.

.4672 7.718 14.66 .6898

12. 7 130. 1

20.

DVOS MV DIOS NA DIB NA ISINK MA

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REMARKS:									
**************************************	**************************************	**************************************	* * * *	**** TEC	**************************************	* * * * * * * * *	* CC	* * * * * * * * * * * * * * * * * * *	**************************************
119	DUAL	DUAL COMPARATOR	~	BIPC	BIPOLAR	! ! ! !		1-89-1	099
MANUFACTURER	PART	PART NUMBER		SPE	SPECIFICATION	NOI	, D V	DATA SOURCE	JRCE
ADVANCED MICRODEVICE	VICE LM119	; ; ; ; ; ; ; ;	! !	1	!	! ! ! !	JPL	<u>.</u>	}
-	PART OTY.								
NONE 2.5MEV EL	1 4	CNK	1	i i i i	1 1 1 1 1	; ; ; ; ; ;	1 1 1 1 1	i J I I	[]]-]]
CUM. DOSE (RADS):	0	75K		-	150K	36	300K		
PARAMETERS	MEAN SD	MEAN	- QS	MEAN	SD	MEAN	SD	MEAN	SD
DVOS MV DIOS NA DIB NA ISINK MA	20.2	. 18 . 1549 10. 8 . 362 120. 13. 29 19. 76 . 7937	1549 8.362 13.29	13.8 200. 19.37	. 16 . 1240 13.8 9. 180 200. 12.65 9.37 .8062	22.8 320.	13.60 15.00 8266		

REMARKS:

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GENERIC PART NUMBER	MBER	FUNCTION	NOI		TECHNOLOGY	<u>}:</u>	S.	Z.	REF. NO. DECTION	
119		DUAL	DUAL COMPARATOR	TOR	BIPOLAR			1-90	670	
MANUFACTURER		PART N	PART NUMBER	; ; ;	SPECIFICATION	TION	DA	DATA SOURCE	RCE	
ADVANCED MICRODEVICE	EVICE	LM119			i F) [; ; 1 []	- Jan		1	
LDC RAD. TYPE PART OTY.	E PART	C QTY.	_							
NONE 2.5MEV EL	_	4	UNKNOWN	Z	; ; ; ; ; ; ; ; ; ; ; ; ; ; ; ; ; ; ;		-		†	
CUM. DOSE (RADS):				75K	150K	300K	J			
PARAMETERS	MEAN	SD	MEAN	SD	MEAN SD	MEAN	- GS	MEAN		
DVOS MV DIOS NA DIB NA ISINK MA	; 		.258 .1290 10. 8.131 130. 8.608 21.05 1.069	.258 .1290 10. 8.131 130. 8.608 1.05 1.069	.288 .1821 20. 12.03 220. 17.09 20.78 1.102	34.5 34.5 345.	. 3245 4.869 28.63			

GENERIC PART NUMBER	ш.	ION	TECHNOLOGY		REF. NO DECORD	PECODO
	DUAL C	DUAL COMPARATOR	BIPOLAR		1-91	680
MANUFACTURER	PART N	PART NUMBER	SPECIFICATION	ION	DATA SOURCE	RCF
ADVANCED MICRODEVICE	ا				JPL	
LDC RAD, TYPE PA	PART OTY.	BIAS				
NONE 2.5MEV EL	4	UNK.			 	.]
CUM.DOSE(RADS):	0	75K	150K	300K		
PARAMETERS MEAN	MEAN SD		MEAN SD	MEAN SD	MEAN	ds.
DVOS MV DIOS NA DIB NA ISINK MA 19.3	6	.21 .0658 8.7 4.835 130. 6.817 18.82 .4690	.23 .1703 :4.6 6.962 220. 3.930 18.44 .4787	. 54 .2044 15.8 9.618 360. 22.55 18.2 .6238		

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GENERIC PART NUMBER	UMBER	FUNCTION	NOI		TECI	TECHNOLOGY		ž	F. NO.	REF.NO. RECORD	
		DUAL COMP	DUAL COMPARATOR	OR .	BIP	BIPOLAR	!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!	i ÷ {	1-92	069	
MANUFACTURER	. 3	PART	PART NUMBER		SPE	SPECIFICATION	NOI	0	DATA SOURCE	RCE	
ADVANCED MICRODEVICE	DEVICE	LM119	t 	! ! !	1		: ! !	: *5 	JPL	1	
LDC RAD. TYPE PART OTY.	PE PAR	T QTY.									
		4	CNK.	 	1	1		!		1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	
CUM. DOSE (RADS):) 	0	7.	75K	#	150K	ĕ	300K			
PARAMETERS	MEAN	S	MEAN	SD	MEAN SD	SD	MEAN	SD	MEAN	SD	
DVOS MV DIOS NA DIB NA ISINK MA	15.1	·	5.5 3.579 115. 19.21	3.579 19.21 5228	,	.3 .2895 14.5 9.059 215.35.27	.54 .414 27.5 19.5 355. 61.0	. 54 . 4142 27.5 19.57 355. 61.04 14.92 .6377)] 	

REMARKS:

GENERIC PART NUMBER	MBER	FUNCTION	NO		TEC	TECHNOLOGY		R	REF.NO. RECORD	RECORD
119	:	DUAL COMP	DUAL COMPARATOR	TOR	BIP	BIPOLAR	 	; -	1-93	700
MANUFACTURER		PART NUMBER	UMBER		SPE	SPECIFICATION	NOI	Ď	DATA SOURCE	RCE
ADVANCED MICRODEVICE	VICE	LM119	j 1. 1. 1.	1 1 1 1 1 1	<u> </u> - !	 	1	JAPL	-	!
LDC RAD, TYPE PART QTY.	PAR	T QTY.	BIAS							
NONE 2.5MEV EL	i !	4	CNK.			1	# ! ! !		i 1 1 1	!
CUM.DOSE(RADS):		0		75K	*	150K	ñ	300K		
PARAMETERS	MEAN	SD	MEAN SD	SD	MEAN	SD	MEAN	SD	MEAN	GS.
DVOS MV DIOS NA DIB NA ISINK MA	14.2		. 39 . 26. 1 172. 3	30.68 30.68	. 54 42. 298. 13.72	. 54 . 4832 42. 15. 15 298. 46.93	. 69 68. 470.	.69 .3795 68. 3.940 470. 71.12 13.39 .1893	† † !	

REMARKS:

GENERIC PART NUMBER	ш.	NOI	TECHNOLOGY		REF.NO. RECORD
119	DIJAL	DUAL COMPARATOR	BIPOLAR		1-94 710
MANUFACTURER	PART	PART NUMBER	SPECIFICATION	NOI	DATA SOURCE
ADVANCED MICRODEVICE	VICE LM119	: : : : : : : : : : : : : : : : : : :		 	JPL
LDC RAD. TYPE	PART	BIAS			
, W	4	UNK.		1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	
CUM. DOSE(RADS):	0	75K	150K	300K	
PARAMETERS	MEAN SD		MEAN SD	MEAN SD	MEAN SD
DVOS MV DIOS NA DIB NA ISINK MA	14.4	. 11 .0202 10.2 6.826 155, 12.94 14.29 .3096	.24 ,0762 18.3 13.56 275. 25.95 14.04 .3403	.34 .1038 29.9 14.50 450. 34.60	000

REMARKS:

GENERIC PART NUMBER		FUNCTION	NO	į	TEC	TECHNOLOGY		2	F. NO.	REF.NO. RECORD
119	<i>1</i> 2	UAL C	DUAL COMPARATOR	TOR	BIP	BIPOLAR	! ! ! !	-	1-95	720
MANUFACTURER		ART N	PART NUMBER		SPE	SPECIFICATION	NOI	70	DATA SOURCE	JRCE
ADVANCED MICRODEVICE		LM119	 				1	JPL	JPL	
_	E PART GTY.	OTY.	BIAS							
NONE 2.5MEV EL		1 1 1	UNK .	 	1	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		 		1
CUM. DOSE(RADS);	0			75K	¥	150K	, ,	300K		
PARAMETERS	MEAN	SD	KEAN	SD	MEAN SD	SD	MEAN	os	MEAN	SD
DVOS MV DIOS NA DIB NA		† 	16.	. 3242 6. 758 13. 63	.31 29.5 285.	.31 .3323 29.5 13.60 285 23 92	. 445 46.	. 445 . 3909 46. 28. 72 46. 31. 68	 	; ; ;
ISINK WA	14.5		14.64	.2872	14.27	3000	13.99	2630		

GENERIC PART NUMBER	MBER	FUNCTION	NO.		TECH	FECHNOLOGY		RE	REF.NO.	
119	\$ { { {	DUAL C	DUAL COMPARATOR	TOR	BIPC	BIPOLAR	; ; ; ;	-	1-96-1	730
MANUFACTURER		PART NUMBER	UMBER		SPEC	SPECIFICATION	NOI	DA	DATA SOURCE	JRCE
ADVANCED MICRODEVICE	EVICE	LM119	; ! ! !	! ! ! !	1) 	! ! !	J. P.	JPL.	! ! ! ! !
	E PAR	PART OTY.	BIAS							
NONE 2.5MEV EL		4	SNK.	 	, 	 	[]]] [! ! ! !) 	! ! ! !
CUM.DOSE(RADS):				75K	#	150K	Ř	300K		
PARAMETERS	MEAN	SO	MEAN	•	MEAN	:	MEAN		MEAN	S
DVOS MV DIOS NA DIB NA ISINK MA	15.3		.068 6.4 98 15.17	.068 .0641 6.4 10.10 98, 7.573 15,17 1.034	. 108 10.6 175.	108 .0710 10.6 14.12 175. 14.56 14.99 1.024	23. 1 23. 1 300. 3	4 . 1855 . 19.65 . 32.83 2 1.033	·	

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REMARKS:

GENER]	GENERIC PART NUMBER	MBER	FUNCTION	NO		TEC	TECHNOLOGY		æ	F.NO.	REF.NO. RECORD
119	1 1 1 1 1 1 1	! ! !	DOAL C	DUAL COMPARATOR	OR	BIP	BIPOLAR		-	1-97	740
MANUFA	MANUFACTURER		PART NUMBER	IUMBER		SPE	SPECIFICATION	NOI	OA	DATA SOURCE	RCE
ADVANG	ADVANCED MICRODEVICE		LM119	; ; ; ; ;	I	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	! ! ! !	! ! !	JPL	JPL.	
LDC	RAD. TYPE PART GTY. BIAS	E PART	ОΤУ.	EIAS							
NONE	2.5MEV EL	1	+ + + + + + + + + + + + + + + + + + +	UNK.	 	i 1 1 1 1] ! ! ! !	 	! ! ! !
CUM, DC	CUM, DOSE (RADS):	0			75K	Ŧ	150K	Ř	300K		
PARAMETERS	TERS	MEAN	SD	MEAN	SD	MEAN	SD	MEAN	SO	MEAN	SD
DVOS MV DIOS NA	} <u> </u>	i i i i	\$! ! !	.248	248 .2409 6.4 7.038	412	.412 .2974		3207	 	! ! ! !
DIB	Ą			130.	10.55	235.	21.28		375, 35.04		
ISINK MA	MA			15, 14	15.14 .4856	14.84	14.84 .4272	-	5123		

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GENERIC PART NUMBER	MBER	FUNCTION	LON		TEC	TECHNOLOGY	> -	Q	DEE NO DECOM	000	
119		DOAL C	DUAL COMPARATOR	TOR	BIP	BIPOLAR		-	1-98	750	
MANUFACTURER		PART NUMBER	UMBER		SPE	SPECIFICATION	NOI		DATA SOUDS		
ADVANCED MICRODEVICE	EVICE	LM119	 	 	1			15	JPL	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	
LDC RAD. TYPE PART QTY.	E PÄR	r oty.	_								
NONE 2.5MEV EL		4	LINE .								
CUM. DOSE(RADS):	O	:		75K	2	150K	ñ	BOOK			
PARAMETERS	MEAN	SD	MEAN	SD	MEAN	SD	MEAN SD	SO	MEAN	5	
DJOS MV DIOS NA DIB NA			. 155	4.4 3.700	.26 .1079	. 1079	.5	.5 .0755			
ISINK MA	16.2		15.92	5.92 . 1826	270. 15.57	19.66 . 1915	15.07	440. 29.59			

GENERIC PART NUMBER	MBER FUNCTION	NOI	TECHNOLOGY	c	
119	DUAL	DUAL COMPARATOR	BIPOLAR	X 1 -	1-99 760
MANUFACTURER	PART	PART NUMBER	SPECIFICATION	c	4 T A C
ADVANCED MICRODEVICE	EVICE LM119	. T E) 	JPL
LDC RAD. TYPE	PART OTY.	BIAS			
NONE 2.5MEV EL	4	UNK.	; ; ; ; ; ;		
CUM. DOSE(RADS):	0	75K	1501:	300K	
PARAMETERS	MEAN SD	MEAN SD	SD MI	EAN SD	MEAN SD
DVOS MV DIOS NA DIB NA ISINK WA	15.3	. 2 . 1701 5. 3.828 125. 22.48 15.44 .2217	.241 .1856 .264 10.8 7.925 46.8 225. 43.25 365.	.264 .1246 16.8 12.62 365. 49.91	

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GENERIC PART NUMBER: **********

THE PERSON OF COLUMN											
GENERIC FARI NUMBER		FUNCTION	8 :	; ; ; ;	TEC	TECHNOLOGY	,	~	EF.NO.	REF.NO. RECORD	
119	٠	DUAL C	DUAL COMPARATOR	TOR	BIP	BIPOLAR	 	 	1-100	770	
MANUFACTURER		PART NUMBER	UMBER		SPE	SPECIFICATION	NOI	ď	DATA SOURCE	RCF	
ADVANCED MICRODEVICE		LM119	. 	1	İ	! ! ! ! ! ! ! ! ! ! ! ! ! ! ! ! ! ! ! !		5	JPL		
LDC RAD. TYPE PART OTY.	E PART	OTY.	BIAS								
	4		CNK.	. - - - - - -			1	1		 	
CUM. DOSE (RADS):	0		•	75K	#	150K	.5	X00 00			
PARAMETERS	MEAN	SD	MEAN SD	SO	MEAN	SO	MEAN	SD	MEAN		
DVOS MV	#	1 1 1	.074 .081	.0818	•	. 1027	. 129	.0721			
DIB NA ISINK MA	16.4		5.6 92. 16.49	5.6 2.231 92. 30.19 16.49 1.124	•	12.4 7.213 160. 49.98 16.34 1.159	20.4 270.	20.4 22.62 270. 88.21 16.02 1.208			

REMARKS:

GENERIC PART NUMBER	FUNCTION		TECH	TECHNOLOGY		ä	.F. NO.	REF.NO. RECORD
119	DUAL COMPARATOR	ARATOR	BIPOLAR	IPOLAR			1-101	780
MANUFACTURER	PART NUMBER	E	SPEC	SPECIFICATION	NO	Õ	DATA SOURCE	E CE
ADVANCED MICRODEVICE	LM119	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	!	 	1 2	J. O.	JPL.	
LDC RAD. TYPE PA	PART OTY. BIAS	AS .						
i Ol	4 UNK.			!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!				1
CUM.DOSE(RADS):	0	75K	150K	×	30	300K		
PARAMETERS MEAN	SD	MEAN SD	MEAN	SD	MEAN	SD	MEAN	SD
DVOS MV DIOS NA DIB NA ISINK MA	20 - 4		_		. 28 38. 330.	.28 .3572 38. 21.18 330. 19.94 14.46 .5000		1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1

119		DUAL VOLT	1	COMP	BIPOLAR	AR	} 	25-7	5-7	1590
MANUFACTURER		PART	PART NUMBER		SPECI	SPECIFICATION	NOI	DA	DATA SOURCE	RCE
AMD	i i i	LM119H	} } }	1	 	 	† 	AE	AEROJET	; (1 1 1
LDC RAD. TYPE		PART OTY.	BIAS							
7703P C0-60	i to	 	UNK.	, , , , ,	1 2 5 6 7 1 4	 	! ! ! ! ! !	! ! !	;]
CUM. DOSE (RADS):			i	#8 X	100K	×	420K	¥		
PARAMETERS	MEAN	SO	MEAN	S	MEAN	SD	MEAN	SD	MEAN	S
** OIA	PASS*	1	PASS*	 	PASS*	! !	PASS*	! ! !	; ; ; ;	
18+	PASS*		PASS*		PASS*		PASS*			
IB-	PASS*		PASS*		PASS*		PASS*			
110	PASS*		PASS*		PASS*		PASS*			
ICC	PASS		PASS		PASS		PASS			
IEE	PASS		PASS		PASS		PASS			
TR1	PASS		PASS		PASS		PASS			
REMARKS: **TR2 PASSED A!! DOSES *SOME	PASSED	A! I DC	* 5350	SOME P.	PARTS MARGINAL		OR UNSTABLE IN TEST SETUP	BLE	N TEST	SETUP

GENERI	GENERIC PART NUMBER	WBER	FUNCTION	NO		TECH	TECHNOLOGY		RE	_:	RECORD
119	 	 	! ! ! !	 	 	: : : : : :		 	80	805-6	4500
MANUFA	MANUFACTURER		PART NUMBER	UMBER		SPEC	SPECIFICATION	NOI	ă	DATA SOURCE	RCE
NSC		! !	LM119		 			 	I	 	
rpc	RAD. TYPE		PART OTY.	BIAS							
8043	09-00	מו	 	C C		 					
CUM.DO	CUM.DOSE(RADS):			20	20.5K	32	32.9K	57	57.6K	107	107.3K
PARAMETERS	TERS	MEAN	SO	MEAN	SO	MEAN	SD	MEAN	SD	MEAN	SO
18+ -10S VOS	N E	.354 20.0	.354 .0458 20.0 19.44 1.77 .4640	. 529 57.2 525	. 529 . 0529 57.2 29.16 .225 . 6605	.610 66.9	.610 .0621 66.9 39.22 .120 .4811	735	78.6 62.41 145 .4829	.900	.0988 101.6
)			,	1)				1) -	

GENERI	GENERIC PART NUMBER	COMBER	FUNCTION	NOI		TEC	TECHNOLOGY		~	F.NO.	REF.NO. RECORD	
120		i i i i	3-TER	3-TERM NEG REGULATR	EGULATR	. —	BIPOLAR	!		805-7	4510	
MANUFACTURER	CTURER		PART N	PART NUMBER		SPE	SPECIFICATION	NOI	2	DATA SOURCE	RCE	
NSC			LM120H~5		1		 		1 F		! ! ! !	
LDC	RAD. T)	RAD. TYPE PART GTY. BIAS	RT QTY.	BIAS		•						
8008	09-00		9	CNK.	 					1	!	
CUM. DO	CUM.DOSE(RADS):	:	0	12.5K	똤		25K	67	50K	-	100K	
PARAMETERS	FERS	MEAN	SD	MEAN	SS	MEAN	SD	MEAN	SD	MEAN SD	SD	
LOAD REG VOUT LINE REG	EG MV	19.33 4.989 4.300	1.329	20.58 1.393 4.990 .0220 4.583 .6616	1.393 .0220 .6616	23.17 4.992 4.717	23.17 5.407 4.992 .0224 4.717 .5980	25.42 5.737 4.993 .0227 4.683 .6969	5.737	24.00 4.995 5.267	24.00 2.869 4.995 .0229 5.267 .5391	

REMARKS:

GENER	RIC P	GENERIC PART NUMBER	JMBER	FUNCTION	ION		TEC	TECHNOLOGY		S.	F. NO.	REF.NO. RECORD	
121				PRECIS	PRECISION PRE-AMP	RE-AMP	818	BIPOLAR	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	10	1018	5180	
MANUFACT	MANUFACTURER	ZER		PART !	PART NUMBER		SPE	SPECIFICATION	NOI	DA	DATA SOURCE	RCE	
NATIONAL	JNAL) ; -	LM121	 	!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!				TRW	RW	† 	
LDC	RAD.	RAD. TYPE		PART OTY.	BIAS								
013	09-00	09	!	3	V+= 15	5.0v. v	V+=15.0V, V-=-15.0V	٧.		! ! ! ! ! ! ! ! ! ! ! ! ! ! ! ! ! ! ! !	!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!	1 1 1	
CUM.D	OSE (R	CUM.DOSE(RADS);	į	0	- .	100K	8	200K	20	500K	-	TMEG	
PARAM	PARAMETERS		MEAN		MEAN	SD	MEAN	SD	MEAN	SD	MEAN	SD	
VOS] 	2	0.0	9 0,354		0.360		0.087 0.757	-0.19	1.649	-0.07	-0.07 1.365	
18		ž Z	8.504	8.504 2,370		-0.01 0.573 18.80 5.188		0.319 0.946 32 44 7 720	0.139	2.401	1.515	1.515 3.078	
AVOL	1HZ	98	121.	121.1 0.13		0,34		121.0 0.69	121.3 0.86	0.86	120.8	120.8 1.18	

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GENER	GENERIC PART NUMBER	NON J	BER	FUNCTION	NOI		TECH	TECHNOLOGY		2	REF.NO. RECORD	RECORD
1210	1 3 1 1	 	!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!	12-BIT	A'D C	12-BIT A'D CONVRTR.	CMOS			-	1-15	1100
MANUF	MANUFACTURER	~		PART N	PART NUMBER	٠	SPEC	SPECIFICATION	NOI	ā	DATA SOURCE	3CE
NSC	! ! !			ADC 12 10	0	† † · · · · · † † † †		 	l 	5	JPL	
TDC	RAD. TYPE	TYPE		PART OTY.	BIAS	-	:	i				i 1
7840	09-00		! !	2	+ >	$V+ = 10V, V^- = -10V.$	- 10	 	VREF = 10.000V	000		
CUM. DO	CUM.DOSE(RADS):	3):	0		!	20K			1	 	. 1	; ; ; ;
PARAMETERS	ETERS		MEAN	SD	MEAN	S	MEAN	SD	MEAN	SD	MEAN	SD
I I SC CC	MAN WAR	44>>445	0.280 0.745 9.97 0.63 8.99 15.10	 	O.615 O.545 FAIL FAIL FAIL FAIL			 				
REMARI	Σ	 	WORST-CASE	CASE ((NOT AV	(NOT AVERAGE).		AETERS	PARAMETERS CONTINUED ON RECORD 1101	ED ON	RECORD	1101

GENERIC PART NUMBER	FUNCTION	7	TECHNOLOGY		REF.NO. RECORD	RECORD
1210	12-BIT	12-BIT A/D CONVRTR.	CMDS		1-15	1101
MANUFACTURER	PART NUMBER	WBER	SPECIFICATION	NO	DATA SOURCE	JRCE
NSC	ADC1210				JPL	
LDC RAD. TYPE P.	PART OTY.	BIAS	; ; ; ; ;	1 1 2 0 1 1 1	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
7840	8	V+=10V, V-=-10V, VREF=10.000V	OV, VREF=10.C	. 000		
CUM.DOSE(RADS):	0	20K				
PARAMETERS MEAN	SD	MEAN SD	MEAN SD	į	MEAN	SD
IEE (MAX) MA 2.0	2.00	1.96	1 1 1 1 1 1 1 1	! ! ! !		
LINEARITY ER- ROR (MAX) % 0.020	20	FAIL				
FULL-SCALE ERROR (MAX) % 0.055	55	FAIL				
ZERU-SCALE ERROR (MAX) % 0.031 FAIL PEMARKS: PARAMETERS CONTINUED FROM RECORD 1100: CONTINUED ON 1102.	31 CONTINUED	FAIL FROM RECORD	1100: CONTINE	JED ON 110	Ž,	

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CUM. DOSE(RADS):	O	_		20K						
	1 1 1	11111111	11011	111111111	1 1 1 1 1		1		11111111	1 1 1
PARAMETERS	MEAN	MEAN SD	MEAN	MEAN SD	MEAN SD	SD	MEAN SD	SD	MEAN SD	SD
	1 1 1 1 1 1 1 1 1 1 1	1	1111		11111	11111111111		1 1 1 1 1	1 1	1 1 1
CLOCK										
FREQUENCY										
(WINIWIW)										
KHZ	200		FAIL							

GENERIC FART NUMBER: 1210

1102

1-15

TECHNOLOGY

12-BIT A/D CONVRTR.

FUNCTION

GENERIC PART NUMBER

1210

DATA SOURCE

SPECIFICATION

PART NUMBER

MANUFACTURER

RAD. TYPE PART OTY. BIAS

LDC

REF.NO. RECORD

REMARKS: CONTINUATION FROM RECORD 1101.

GENERIC PART NUMBER	NUMBER	FUNCTION	NO		TECH	TECHNOLOGY		ŭ	F.NO.	REF.NO. RECORD
1210		12-BIT	12-BIT A/D CONVRIR	NVRTR.	CMDS	; ; ;	! ! ! !	; ÷ · 	1-16	1110
MANUFACTURER		PART	PART NUMBER		SPEC	SPECIFICATION	NOI	<u> </u>	Data source	JRCE
NSC		ADC 1210	0	 	f 	! ! !	; ! ! ! !	5	JPL.	1 ! ! !
		PART QTY.	BIAS							
7840 CD-60	1 1 1 1 1	2	V+=10V	, V-=-	V+=10V, V-=-10V, VREF=10.000V	EF= 10.	. A000			! ! !
CUM.DOSE(RADS):	s):			¥		¥		15K		20K
PARAMETERS	MEAN	S	MEAN	S	MEAN	S	MEAN	SD	MEAN	SD
INL(MAX) NA			0.370	! ! !	0.325	 	0.370	 	FAIL	
INH(MAX)	A 0.810		0.765		0.635		0.625		FAIL	
VOH(MIN)	V 9.97		9.97		9.94		9.76		FAI	
		-	0.900		20.0		107		FAIL	
ISK(MIN) MA			9.39		9.23		8.28		FAII	
PARAMETERS	CONT.	O	REC.	1111.						

REF.NO. RECORD 1-16 1111

TECHNOLOGY

12-BIT A/D CONVRTR.

FUNCTION

GENERIC PART NUMBER

DATA SOURCE

SPECIFICATION

PART NUMBER

MANUFACTURER

NSC

ADC1210

RAD. TYPE PART GTY.

TDC

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CUM. DOSE (RADS):	ADS):		•		¥	7	7K	-	15K	N	20K
PARAMETERS		MEAN SD		MEAN SD	WEAN SD	MEAN SD	SD	MEAN SD	MEAN SD		as
SC(MIN)	Ψ	14.90	; ; !	14.53	14.53	14.04	 	12.95	1	FAIL	
CC(MAX)	MA	3.87		3.91		5.23		10.54		FAIL	
EE(MAX)	MA	2.13		2.14		2.11		2.10		FAT	
INEARITY-)			
ERROR (MAX) %	%	0.028		0.320		0.125		1.070		FAIL	
ULL-SCALE)' - -		1	
ERROR(MAX) % 0.021	%	0.021		0.240		0.409		2.83		FAII	
REMARKS: CONTINUATION FROM RECORD 1110.	NITNC	UATION	FROM	FCORD	1110	PADAMETERS CONTINUED ON DECIDE +++0	L NO.	PATTAGE	10 NO 0.	+ uauuu	ç

GENERIC PART NUMBER	FUNCTION 12-BIT A/D CONVRTR.	TECHNOLOGY	REF.NO. RECORD	RECORD 1112
MANUFACTURER	PART NUMBER	SPECIFICATION	DATA SOURCE	RCE
NSC	ADC1210			
LDC RAD. TYPE PART QTY.	RT QTV. BIAS			1

CUM. DOSE(RADS):				¥		¥		15K		20K
PARAMETERS	MEAN SD	WEAN SD	MEAN SD							
ZERO-SCALE ERROR(MAX) % 0.131	0.131		0.143	-	0.195		0.440	0.440	FAIL	FAIL
FREQUENCY (MIN) KHZ	200		200		. 022		200		FAIL	
END OF					i 1)		!	

PARAMETERS
REMARKS: CONTINUATION FROM RECORD 1112.

GENERIC PART NUMBER: ***********

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GENERIC PART NUMBER	UMBER	FUNCTION	N		TECH	TECHNOL.OGY	i 1	RE	REF.NO.	REF.NO. RECORD
122		PRECIS	PRECISION TIMER	ER	BIPOLAR	BIPOLAR		Q	1016	5160
MANUFACTURER		PART NUMBER	JMBER		SPEC	SPECIFICATION	NOI	DA	DATA SOURCE	RCE
NATIONAL		LM122			; ; ;			TRW	TRW	
		F OTY.	BIAS							
8121 CO-60	i io	1 	VCC=5.	3V, 50	MS PULS	VCC=5.3V, 50MS PULSE (2S. REP.) TO TRIGGER	REP.)	TO TRI	GGER.]
CUM.DOSE(RADS):		C	1	20K	u,	50K	10	100K	8	200K
PARAMETERS	MEAN SD	EAN SD	MEAN	SD	MEAN	SD	MEAN SD	SD	MEAN	SD
VOL VOL S PW S PW S PW	0.272 108.4 983.2	0.272 0.005 108.4 0.77 983.2 6.50		0.005 2.30 6.06	0.290 98.88 975.6	0.006 2.77 5.97	0.300 0.007 94.45 4.64 980.1 6.58	0.007 4.64 6.58		0

REMARKS:

GENERIC PART NUMBER	_	NO	TECHNOLOGY		
123	6-CF FET	6-CF FET-SW DRIVER	BIPOLAR	; . ; ; ; ; ; ;	1047 5490
MANUFACTURER	PART N	PART NUMBER	SPECIFICATION	ION	DATA SOURCE
SILICONIX	D123AL	# W 1 1 1 1 1 1 1 1 1	1 1 1 1 1 1 1 1	 	TRW
LDC RAD. TYPE	E PART QTY.	BIAS			
09-00 9094		VEE(PIN 1)=-5	V; PIN 2 VIA	5K TO +5\	VEE(PIN 1)=-5V; PIN 2 VIA 5K TO +5V; PIN 13,14 *
CUM. DOSE (RADS):	0	100K	300K	500K	- -
PARAMETERS			MEAN SD	MEAN SD	MEAN SD
VO(SAT)(1) MV	15.38 21.39		23.18 31.37	26.44 35.36	36 02
IINL(2) NA VO(SAT)(2) MV ION(2) NA	8.625 0.566 139.5 228.2 0.288 0.034	77.3	31,55 4.272 178.4 247.2 2.540 1.893	42.20 6.563 242.1 191.6 6.790 6.314	63 .6

REMARKS: (1) VEE = -5V. (2) VEE = -20V. *TO GND VIA 12.5K.

SENERIC PART NUMBER: 124	
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GENERIC PART NUMBER	T NUMBER	FUNCTION	ION	TECHNOLOGY		DEF NO	
124		OP AMP	p	BIPOLAR		40	110
MANUFACTURER		PART N	PART NUMBER	SPECIFICATION	ION	DATA SOLIDCE	
NATIONAL		LM124F		1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		IRT CORP	!
LDC RAD.	TYPE	PART OTY.	BIAS				
UNK. CD-60		4	UNK.	*	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	:
CUM. DOSE (RADS):	s):	0	306	60K	300K		
PARAMETERS D VOS MV D IOS NA D IL NA D A DB	MEAN	OS	MEAN SD .6910 .1300 .375 .1160 -26.0 7.130	MEAN SD 1.570 .2390 -1.92 5.420 -62.0 16.50	MEAN SD 13.88 3.500 -27.8 32.60 -242. 69.40	MEAN SD	1.

	NOTIONS - CONTRACTOR - CONTRACT		TEC	I ECHNOLOGY		ĐΩ	EF.NO.	REF.NO. RECORD
124	OP-AMP		BIPC	BIPOLAR		. 2	24-25	1230
MANUFACTURER	PART NUMBER	BER	SPEC	SPECIFICATION	TON NO.		414	ŗ
NATIONAL	LM124F	, t , t , t , t , t , t , t , t , t , t	COMIN	COMMERCIAL		2	PATA SUUNCE	7 .
LDC RAD. TYPE	PART OTY, B.	BIAS						
8016 C0-60	4	V+=15V, V-=GND, INV-INPUT=OUTPUT, NONINV-INPUT=5V	ND. INV	-INPUT	=OUTPUT	NON	INV-INP	UT=5V
CUM.DOSE(RADS):	0	30K	Ď.	100K	36	3COK		
PARAMETERS ME	MEAN SD ME	MEAN SD	MEAN	SD	MEAN	SO	MEAN	SD
D VOS MV D IOS NA D IIB NA	0 .	0.511 0.170 411 2.502 26.80 6.938	2.281 0.689 -3.74 15.88 119.9 20.20		9.493 3.947	3.947		

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GENERIC PART NUMBER		FUNCTION	Z O	- 	TEC	TECHNOLOGY		3	F,NO.	REF.NO. RECORD
124		OP-AMP			BIP(BIPOLAR	1.	24	24-24	1260
MANUFACTURER		PART NUMBER	UMBER		SPE	SPECIFICATION	ION	DA	DATA SOURCE	JRCE
HARRIS	 	LM124	r 	f 1 1 1		COMMERCIAL	; 1 1 1 1	RO	ROCKWELL	
LDC RAD. TYPE		PART OTY.	BIAS							
7852 CD-60	 	4	V+= 15V	() V-=G	ŽI.	V-INPUT	V+=15½, V-=GND, INV-INPUT=OUTPUT, NONINV-INPUT=5V	NON .	NY-INE	
CUM. DOSE (RADS):	0		(7)	30K	=	100K	30	300K		
PARAMETERS	MEAN	SD	MEAN		MEAN	SD	MEAN	SD	MEAN	S
 		f 	0.462		1,268 -8,38	1,268 0,245 -8,38 34,03	5.703 1.314 -25.4 71.85	1.314) - 	:
D IIS			22.86	22.86 4.489	65.05	28.47	207.6	46.12		

GENERIC PART NUMBER	_	NO		TEC	rechnology	i	2	EF.NO.	REF.NO. RECORD
124	QUAD OP AMP	P AMP		BIPC	BIPOLAR		66	1 1 1 1 5	1860
MANUFACTURER	PART NUMBER	IUMBER		SPEC	SPECIFICATION	NOI	۔	DATA SOURCE	JRCE
NS	LM1240	i i i	i i	! !	f 		1. 3 8 ·	WESTINGHOUSE	HOUSE
RAD. TYPE	PART OTY.	BIAS							
B8113 C0-60		V+=+15V, V-=-15V	, V	- 15V	 	! ! ! !	 	 	! ! ! ! !
CUM.DOSE(RADS):	0	150K	š	4	400K				
PARAMETERS MEAN	AN SD	MEAN	SO	MEAN	SD	MEAN	SD	MEAN	SD
V=5 MV 1	.282 .8204 6650 5.676	.4451 .9587	.9587	-2.65	-2.65 2.109 6.995 32.84	i I. I	l E	i i i i	
V=5 NA 1	17.54 4.002	145.73	7.331	208.2	59.48				
(20		1.526	.0336	1.412	1.412 .0396				
-				•					

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GENERI	GENERIC PART NUMBER	UMBER	FUNCTION	Z		TECH	TECHNOLGGY		RE	REF.NO. RECORD	RECORD
124	! 	 	LOW PWF	LOW PWR QUAD OF AMP	OP AMP	BIPOLAR	LAR		80		4520
MANUFA	MANUFACTURER	THE STATE OF THE S	PART NUMBER	JMBER	,	SPECI	SPECIFICATION	NOI	DATA	DATA SOURCE	RCE
NSC	 		LM124	 					I		
LDC	RAD. TY	RAD. TYPE PART QTY.	r oty.	BIAS	, 1 1		1			; ; ; ;	1 1 1 1
8009	09-00	 	4	UNK.			 - - 				
CUM. DO	CUM.DOSE(RADS):			12.5K	ž.	8	25K	(1) 	50K	- 1	100K
PARAMETERS	TERS	MEAN	S	MEAN	SD	MEAN	SD	MEAN	SD	MEAN	S
AOL -(IB+) * VOS -(IOS) *	* *	105.9 12.03 .7163 1.056	105.9 1.699 12.03 5.976 .7163 1.131 1.056 2.986	112.6 42.03 .8638 1.472	112.6 2.752 42.03 9.928 .8638 1,211 1.472 4.215	109.4 5.503 62.06 15.25 .6550 1.241 1.875 3.798	09.4 5.503 2.06 15.25 6550 1.241 .875 3.798	107.7 4.114 91.19 27.39 .1663 1.330 -1.81 11.89	107.7 4.114 91.19 27.39 .1663 1.330 -1.81 11.89	100.3 119.4 988 2.031	100.3 5.092 119.4 39.72 988 2.042 2.031 17.60

REMARKS: *NEGATIVE OF PARAM. VALUE USED TO CONSERVE SPACE (FOR SIGNIFICANCE).

GENERIC PART NUMBER	NUMBER	FUNCTION	S.		TEC	TECHNOLOGY		RE	F.NO.	REF.NO. RECORD
124	! ! ! ! !	Cip AMD	! ! ! ! !	 	BIPOL	BIPOLAR		\$	1008	5070
MANUFACTURER		PARE NUMBER	UMBER		SPEC	SPECIFICATION	NOI	DA	DATA SOURCE	RCE
AMD	8 8 4 6 1 1	LM/024D	; ; ; ;			 	; 	TRW	TRW	
	RAD. TYPE PAR	PART OFF	BIAS						·	
8020 C0-60	 		VIN=0.	ф-d)/9) 1KHZ,	RIN=10	VIN=0.6V(P-P)1KHZ, RIN=10K, IN+ VIA 9.1K TO GND,	VIA 9.	₹ 5	SND.
CUM. DOSE(RADS):	: (S	0	¥	100K	5	200K		500K	-	1MEG
PARAMETERS	MEAN	S	MEAN	SO	AN	SD	MEAN	SD	MEAN	SD
) -	111.3	•	111.6	,	11.3	,	110.3	l)	108.0	- 1
AVEL 1KHZ DI AVOL 5KHZ DI	3 57.68 3 43.91	0.30	57.06 43.29	0.34	43.04		43.58	0.87	44.48	1.48
!		0	-0.22	. 3	-0.34	2.565	0.154	(.)	0.823	4.551
IB NA	A -23.7	2.651	-45.2	2.276	-66.1 -1 56		-114.	10.18	- 169, -6.38	-169, 26.07 -6.38 0.543
).			

GENERIC	GENERIC PART NUMBER	MBER	FUNCTION	NO.		TECH	TECHNOLOGY		R	REF.NO. RECORD	RECORD
124		- - 	4-CHAN	4-CHAN. ANALDG SW.	IG SW.	WOS	 	i. I. I	9	1024A	5260
MANUFACTURER	URER		PART NUMBER	UMBER		SPE	SPECIFICATION	NOI	DA	DATA SOURCE	RCE
SILICONIX	×	• 	G124AL				·		TRW	TRW	
	RAD. TYPE		PART QTY.	BIAS	i	;					
7728	09-02	LD L		*d=DDA	G1=G3=	ס-מ-ט=ם ס-מ-ט=ם	32=64=-	VCC=P=G1=G3=D=C.J.G2=G4=-20V.S1-S4 VIA 20K TD -20V	S4 VIA	20K T	0 -200
CUM.DOSE(RADS):	(RADS):			(1)	50K	7	100K	56	200K	ñ	300K
PARAMETERS	RS	MEAN	SD	MEAN	SD	MEAN	SO	MEAN	SD	MEAN	SD
(TH)	> ! ! *	-2.39	.0597	-8.64	1734	-9.78	. 2329	-10.9	.2293	-11.9	•
VGS2(TH)*	> ₩ *	-2363	48.9	4068	59.3	-4732	81.7	-5286	101,6	-5640	_
*(HT)ESDA	>	-2.32	.0734	-8.49	.1723	-9.59		-10.7	. 2485	-11.7	3045
VGS4(TH)*	≥	-2344	76.3	+4044	73.0	-4178	366.0	-5246	97.9	-5600	103.7
RDS 1 (ON) **	0 **	53.64	2.592	63.38	3.451	69, 12		74.20	4.320	80.12	5.026
RDS2(0N)**	0 **	53,66	2.529	57.62	7.62 2.734	58.94	2.899	59.52	2.941	60,32	2.964
RDS3(0N)**	0 **	54.32	2.054	63.98 2.636	2.636	69.44	3.129	74.48	74.48 3.685	79.82	4.125
REMARKS:	REMARKS: *VD=-10V.		**VGS=-30V.		TA CON	TINUED	ON REC	DATA CONTINUED ON RECORD 5261	51.		

GENERIC PART NUMBER				RECORD
124	4-CHAN. ANALOG SW.	MOS	1024A	5261
		SPECIFICATION		RCE
SILICONIX	G124AL		 	
LDC RAD. TYPE PART GTY.		BIAS].]]

CUM.DOSE(RADS):	0		u '	50K	7	90K	50	200K	ĕ	300K
PARAMETERS	MEAN	SD	MEAN	SD	MEAN	SD	MEAN		MEAN	SD
RDS4(ON)** 0	55.10		59.18	59.18 2.408	60.42 2.504	2.504	60.98	2.427	61.54	2.660
IS1(OFF)* PA	1.2		131.4	8.2	386.0	37.2	764.0	9.62	1266	124.8
IS2(0FF)* PA	- 2	ī.	30.4	10.4	57.8	6,9	104.0	6.01	152.2	16.3
IS3(0FF)* PA	4.3		127.2	5.6	376.0	26.1	774.0	63.9	1282	116.9
IS4(0FF)* PA	£.	7.	28.6	2.7	57.4	4.9	104.6	6.	149.4	14.2
ID(OFF)* PA	6.3	6	326	45.2	774	31.3	1574	84.4	2270	152.5

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GENERIC PART NUMBER	UMBER	FUNCTION	No		TECH	TECHNÜLOGY			F.NO.	REF.NO. RECORD	
124	! ! ! !	4-CHAN	4-CHAN. ANALOG SW.	G SW.	SGW		! ! !	100	1024A	5262	
MANUFACTURER		PART NUMBER	UMBER		SPEC	SPECIFICATION	NOI	DA	DATA SOURCE	RCE	
SILICONIX		G124AL	1 1 1 1 1			1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1]]] !	 	1	
LDC RAD. TYPE	PE PART	PART GTY.	BIAS								
							r			! ! !	
CUM.DOSE(RADS):	0		r.	50K	₽	100K	2	200K	П	300K	
PARAMETERS	MEAN	S	MEAN	SD	MEAN	SO	MEAN	SD	MEAN	SD	
IGSS1* PA	, r	+	17.6	+	36.4	. 6	70.6	2.7	100.6	6.1	
IGSS2* PA	4.	.	34.4	2.5	76.0	4.5	141.8		191.2		
IGSS3* PA	4	- .	20.0	0.	39.6	2.7	77.2	ص ۲.	111.6	6.3	
IGSS4* PA	4.	₹.	35.4	2.4	78.4	4.8	144.6		195.0		

REMARKS: CONTINUATION FROM RECORD 5261. *VGS=-20V.

				Š		<u>-</u>	I ECHINOLOGY		ж т	REF.NO. RECORD	RECORD
126) 	ANALOG	ANALOG GATE SWITCH	SWITCH	BIFET	ET	 	60		17.10
MANUFACTURER	ZER	:	PART NUMBER	UMBER		SPE	SPECIFICATION	NOI	DA	DATA SOURCE	3CE
SILICONIX	 	! ! !	DG126AL		 	! ! ! !	1 1 1 1 1 1	 	- W	MOTOROLA	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
	RAD. TYPE		PART OTY.	BIAS							
7826 CO-	09-00	. 4	 	V+=13	V+=13V, V-=-10V, PINS: 13=3.7V, 8,14=13V, 13=3.7V	10V. P	INS: 13	=3.7V,	8,14=1	3V. 13	±3.7V
CUM.DOSE(RADS):	(SQE		0		90K		270K	1.35MEG	MEG		
PARAMETERS	"	MEAN	S	MEAN	S	MEAN	So	MEAN	SO	MEAN	SD
RDS(ON)	E M	23.79	2.597	22.45	22.45 1.878	22.85	•	23.63		-	; [[[
(NO)SI+01	S A	96	0000	000	0000	010	0000	0100	0100 00000		
221	۲	.0100	00000	8.750	10.03	18.11	10.46	13.54	10.19		
H H	Š:	0100	00000	8.750	10.03	18.14	10.47	13.74	10.22		
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GENERIC	GENERIC PART NUMBER	MBER	FUNCTION	NO		TEC	TECHNOLOGY		33	:F.NO.	REF.NO. RECORD	
129			SWITCH		; ! ! ! !	BIFET			í ∔ -	1-29	1060	
MANUFACTURER	TURER		PART NUMBER	UMBER		SPEC	SPECIFICATION	NOI	DA	DATA SOURCE	RCE	
SILICON	SILICONIX DEVICES	ES	DG129	! ! !	1 1 1 1 1 1		!		JAN	JPL	1 1 1	
LDC	RAD. TYPE		PART OTY.	BIAS								
7738	09-00		9	CNK	! ! ! !	; 1 1 4 4	 	 		1	ł 1 1	
CUM. DOS	CUM. DOSE (RADS):		0	(y)	30K	1-	75K	•	15K	9	600K	
PARAMETERS	ERS	MEAN	S	MEAN	SO	MEAN	SD	MEAN	SD	MEAN	SD	
1S(0FF) 1D(0FF) 1D+1S RDS(0N)	N N N N N N N N N N N N N N N N N N N	. 498 . 653 1.02 28.3	1 1 1 1	1.05	.3665 .5986 .4479	3.4 3.4 30.	. 5382 1.038 1.086 1.818	6.2 6.2 .52 .52 .29.9	.6314 1.365 .2202 1.944	28. 28. 1.35.	28. 6.676 28. 5.870 1.35.2694 30.5 1.835	

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EEMARKS:

GENERIC PART NUMBER	PART NU	WBER	FUNCTION	NO		TEC	TECHNOLOGY		ž	REF.NO. RECORD	RECORD
129			SWITCH	_	! ! ! !	BIFET		1	; - }	1-30	1070
MANUFACTURER	URER		PART NUMBER	UMBER		SPE	SPECIFICATION	NOI.	70	DATA SOURCE	RCE
SILICONIX	×	 	DG 129	j 1 1 1 1 1	1			1		JPL	
	RAD. TYPE		PART QTY.	BIAS							
7738 CI	CD-60	1	9	CNK.	; ; ; ; ;	 	 	1	 	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	
CUM.DOSE(RADS)	(RADS):	0			30K	• •	75K	¥	150K	Ğ	900K
PARAMETERS	SS	MEAN	SD	MEAN	SD	MEAN	SD	MEAN	SD	MEAN	SD
(S(OFF)		0.877	 	1.200		2.200	1.136	2.450	.8886		.8430
ID(OFF) NA IT 'S(ON) NA		0.943 1.100		450 2.000	1.354	2.000	.9579	2.450	2.450 .8589 7600 5913	• • •	•
(r : 5 = 2		28.20		31.00 2.111		31.50		31.00	1.808		. —

GENERIC PART NUMBER	u.	FUNCTION		TECI	TECHNOLOGY	į	8	F.NO.	REF.NO. RECORD
129	FET	FET SWITCH	 	BIFET	-	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	 	1-29	2940
MANUFACTURER	PART	PART NUMBER		SPE	SPECIFICATION	NOI	Ď	DATA SOURCE	RCE
SILICONIX	DG129			!		!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!	 J90	JPL	!
LDC RAD. TYPE	RAD. TYPE PART QTY.								
7738 CO-60	9	CNK CNK		1	! } ! !] 		
CUM.DOSE(RADS):	0	7	75K	*	150K	ř	300K	v	600K
PARAMETERS	MEAN SD	MEAN	SD	MEAN	AN SD	MEAN SD	SS	MEAN	SD
IS(OFF) NA ID(OFF) NA ID(ON)+IS(ON)	. 498 . 653	3.4	2.9 .5382 3.4 1.038	6.2	6.2 .6314 6.5 1.365	14.5	14 1.478	2.8	28 6.676 28 5.870

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REMARKS:

1.4 .2694

.70 .6112 30.0 2.064

. 54 . 2202 29.7 1.944

.88 1.086 30.0 1.818

1.02

RDS(ON)

GENERI	GENERIC PART NUMBER		FUNCTION	NO		TECH	TECHNOLOGY	_		REF.NO. RECORD	RECORD
129			PRECISION	ION REI	PRECISION REFERENCE		BIPOLAR		 	1046	5480
MANUFA	MANUFACTURER	_	PART NUMBER	UMBER	:	SPEC	SPECIFICATION	NOI	,	DATA SOURCE	RCE
NATIONAL	IAL	-	LM129BH	I	 	1	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		!	TRW	1 1 1
LDC	RAD. TYPE PART OTY.	PART	OTY.	BIAS							
7628	09-00		 	PIN 1	PIN 1 VIA 5K TO +15V; PIN 2 TO GND	TO +16	+15V; PIN 2 TO	1 2 TO	GND.	1 1 1 1 1	
CUM.DO	CUM.DOSE(RADS):	0		¥.	100K	20	200K				
PARAMETERS	TERS		SD	MEAN	S	MEAN SD	SD	MEAN	OS	MEAN	SD
V2 (@12	>	6.914 0.061	0.061	6.916	6.916 0.061 6.916 0.061	6.916	0.061	1 1 1		1	1

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PART NUMB	********
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VERIC PART NUMB	***********
ENERIC PART NUMB	***********
GENERIC PART NUMB	· 安安安全的

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RECORD	4530	¢CE	i i i		!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!	100K	i	4.750 .3146 2.477 .0057
REF.NO. RECORD		DATA SOURCE	11		j ! !	¥	MEAN	4.750
12	86	70			; ; ; ;	SOK	S	.2787
		ION	i t t t t		i 1 1 1 1		MEAN	4.517
TECHNOLOGY	BIPOLAR	SPECIFICATION	} 		: : : :	25K	S	.2557
TECF	_	SPEC			; 		MEAN	4.192 .2557 2.477 .0040
; ; ; ;	E D10D	.:			! ! ! !	5K	SO	.2562
NO	2.5V REFERENCE DIOD	UMBER		BIAS	UNK.	12.5K	MEAN	3.783 .2562 2.478 .0040
FUNCTION	2.5V R	PART NUMBER	LM136A	PART OTY.	9		SD	.1673
BER		1	! !		! ! !	0	MEAN	00
GENERIC PART NUMBER	136	MANUFACTURER	NSC	. —	125 C0-60	CUM. DOSE(RADS):	PARAMETERS	DELTA(VRB) MV VRB V

REMARKS:

GENERIC PART NUMBER	ART NUN	ABER	FUNCTION	NO		TECI	TECHNOLOGY		R	REF.NO. RECORD	RECORD
139		:	OUAD VOL	QUAD VOLT COMPAR	WPAR	BIP	BIPOLAR	 	29	; ; ;	150
MANUFACTURER	RER		PART NUMBER	UMBER		SPE	SPECIFICATION	ION	90	DATA SOURCE	SCE
RCA			CA 139G	 	1 t 1 f f	i ! !	1 1 1 1 1 1	 	1 11	IRT CORP	
LDC RA	RAD. TYPE		PART OTY.	BIAS							
UNK. CO	09-00	i i	10	VCC= 1	VCC=12V, V0=1.4V	1.40	! ! ! !	 	1 1 1 1 1	1	!
CUM.DOSE(RADS):	RADS):		0		¥		5K		20K		
PARAMETERS	S	MEAN	SD	MEAN	SD	MEAN	SD	MEAN	SD	MEAN	as
ICC	Y Y	727.4	727.4 50.92	728.0	50.06	730.2	730.2 49.35		721.0 46.41	1 1 1 1	
SON.	≥	746	2.370	749	2.769	-,761	2.362		2.354		
18 105	Z Z	77.20	-3 62 3 303	77.65	77.65 11.98 -3 57 3 440	79.84	79.84 11.80 -3 69 3 449		87.55 11.03		
ADL	90	105.7	105.7 3,133	105.9	1.379	106.3	3.796		3.684		

ORI	GINAL	PAGE	15
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GENERIC PART NUMBER		FUNCTION	NC		TEC	TECHNOLOGY		ž	REF.NO. RECORD	RECORD	
139	:	UAD CC	QUAD COMPARATOR	TOB	1 B 1 P 1	BIPOLAR	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	i +	1-102	790	
MANUFACTURER	··· Q	PART NUMBER	JMBER		SPE	SPECIFICATION	ION	70	DATA SOURCE	RCE	
ADVANCED MICRODEVICE	_	.M139	! ! ! !	 	!	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	1		JPL	1	
LUC RAD. TYPE PART QTY.	PART	QTY.	BIAS								
09-00	4	! !	NX NX	! ! ! !	1 1 1	 	1	1	1	1 1 1	
CUM.DOSE(RADS):	0			75K	2	250K	7.5	750K	2.5MEG	MEG	
PARAMETERS	MEAN	SD	MEAN		MEAN	SO	MEAN	S	MEAN	SD	
DVOS MV DIOS NA DIB NA ISINK MA	12.9		.34 8. 105.	34 . 1484 8. 2.099 105. 37.00	. 72 29. 160.	.72 .1731 29. 11.67 160. 47.55 112062	.96 37. 260. 9.8	. 96 . 5202 37. 13.11 260. 47.32 9.8 . 6185		1.96 1.296 24.5 26.50 485. 48.67 7.4 1.037	

REMARKS: *77450P.

GENERIC PARI NUMBER	MINER	FUNCTION	NO		TEC	TECHNOLOGY		¥	REF.NO. RECORD	RECORD
139		QUAD	QUAD COMPARATOR	TOR	819	BIPOLAR		; ÷	1-103	800
MANUFACTURER		PART N	PART NUMBER		SPE	SPECIFICATION	ION	DA	DATA SOURCE	3CE
ADVANCED MICRODEVICE	VICE	LM139	 	 	!	 	1.1	JAD	JPL	; ! !
LDC RAD. TYPE PART QTY.	PART	OTY.	BIAS							
NONE 2.5MEV EL		4	CNK.	 		 	1		1	
CUM. DOSE(RADS):			•	75K	53	250K	75	750K	2.5MEG	ÆĞ
PARAMETERS	MEAN	SO	MEAN	i	MEAN	SD	MEAN	SD	MEAN	SD
DVOS MV DIOS NA DIB NA ISINK MA	12.	! !	0 120. 9.2	0 . 1461 2. 2.027 120. 13. 19 9.2 . 3512	6. 240. 7.6	0 .2842 6 4.204 240. 18.47 7.6 .2598	24. 440. 5.6	0 .4186 24. 7.353 440. 24.16 5.6 .2000	. 33 88. 660.	. 33 637, 1 88. 55.02 660. 473.7

REMARKS:

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GENERIC PART NUMBER	L	NOI		TEC	TECHNOLOGY		œ	EF.NO.	REF.NO. RECORD	
139	QUAD	QUAD COMPARATOR	OR	BIP	BIPOLAR		-	1-104	810	
MANUFACTURER	PART	PART NUMBER		SPE	SPECIFICATION	NOI	Õ	DATA SOURCE	RCE	
ADVANCED MICRODEVICE	CE 1.M139	 	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	1			5 	JPL		
LDC RAD, TYPE PAG, QTY.	PAS. OTY.	BIAS								
NONE 2.5MEV EL	4	UNK.		i.		1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	1	 	t 	
CUM.DOSE(RADS):	0	15	150K	ĕ	300K	7	750K	2.5	2.5MEG	
PARAMETERS MEAN	N SD	MEAN 3D	; ; ;	MEAN SD	SD	MEAN	SD	MEAN	SD	
VOS MV JOS NA JIB NA ISINK MA		.5 12. 260. 8.5	.5 .1880 12. 10.42 260. 33.34 8.5 .5809	.75 6. 320. 7.65	.75 .6469 6. 7.853 320. 47.41 7.65 .6716	. 8 28. 470. 6.2	.8 .8442 28 .11.45 470 .87 .11 6.2 .8340	•	2.6 1.050 108. 27.13 880. 182.7 4.8 1.532	

REMARKS:

GENER	GENERIC PART NUMBER	11	NOI		TEC	FECHNOLOGY		RE	F.NO.	REF.NO. RECGRD
139		QUAD	QUAD COMPARATOR	TOR	BIPI	BIPOLAR	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	1 +	1-105	820
MANUFA	MANUFACTURER	PART !	PART NUMBER		SPE	SPECIFICATION	NOI.	CA	DATA SOURCE	RCF
ADVANC	ADVANCED MICRODEVICE	CE LM139		1	i			- GPL		
rpc		PART OTY.	BIAS							
NONE	2.5MEV EL	4	CNK.	1	1			;	!	
CUM. DO	CUM.DOSE(RADS):	0		75K	23	250K	750K	¥	2.5MEG	¥E.G
PARAMETERS		MEAN SD	MEAN	SD	MEAN	SO	MEAN	SD	MEAN	SD
DVDS MV DIOS NA DIB NA ISINK MA		13.9	. 55 2. 165.	.55 .1104 2. 1.153 165. 38.68 10.5 .5012	. 8 4. 240. 9.	.8 .1356 4.3.346 240.48.46 96170	2.3 .6 22. 10 400. 63	3.3312 10.87 63.93 .6522	3.7 112. 780.	. 4987 28.89 128.4

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GENER	GENERIC PART NUMBER		FUNCTION	NO.		TEC	TECHNOLOGY		ã	EF.NO.	REF.NO. RECORD	
139		!	QUAD COMPARATOR	OMPARA	TOR		BIPOLAR	1	1	1-106	830	
MANUF,	MANUFACTURER	_	PART NUMBER	UMBER		SPE	SPECIFICATION	ION	à	DATA SQURCE	RCE	
ADVANC	ADVANCED MICRODEVICE	_	LM139	 	 	!	† 1 1 1 1		i 5	JPL.		
LDC	RAD. TYPE	PART	PART OTY.	BIAS								
NONE	2.5MEV EL	7	4	UNK.	 	j 	1		+ + + + + + + + + + + + + + + + + + + +		1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	
CUM. DO	CUM.DOSE(RADS):	0	! ! !		75K	Ä	250K	75	750K	2.5	2.5MEG	
PARAMETERS	-	MEAN	SD	MEAN	SD	MEAN	SD	MEAN	SD	MEAN	SD	
DVOS MV DIOS NA DIB NA ISINK MA	V A M A A	13.2		.75 2. 108. 10.55	.75 .6:34 2. 6.703 108. 30.28 10.55 1.520	.65 3. 206. 9.15	.65 .3796 3. 2.045 206. 34.89 9.15 1.391	1.35 25. 402.	1.35 .6880 25. 2.793 402. 54.43 79597		3.75 .4821 108. 13.21 802. 114.7 10.15 1.297	

GENERIC PART NUMBER	UMBER	FUNCTION	ION		TEC	TECHNOLOGY	_	ā	REF.NO. RECORD	RECORD
139		QUAD COM	QUAD COMPARATOR	TOR	819	BIPOLAR	1	i ←	1-107	840
MANUFACTURER		PART	PART NUMBER		SPE	SPECIFICATION	NOI	70	DATA SOURCE	T.
ADVANCED MICRODEVICE	DEVICE	LM139	 	! ! !	!			15	JPL.	
LDC RAD. TYPE PART OTY.	P. PART	. OTY.	BIAS							
NONE 2.5MEV EL		4	CNK.	 		1 ! ! ! ! ! ! ! ! ! ! ! ! ! ! ! ! ! ! !		, ; ; ; ;		1
CUM. DOSE (RADS):	0		·	75K		150K	ř	300K	Ō	600K
PARAMETERS	MEAN	SD	MEAN	SD	MEAN	S 65	MEAN	SOS	MEAN	QS.
DVOS MV DIOS NA DIB NA	 	! ! ! !	2.4	1.899 1.899	3.2	3.2 2.069	. 16	1 · m ·	10.9	.2317
ISINK MA	 		16.35	.3162	15.25	15.25 .3500	13.8		252.	252, 15,40

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REMARKS:

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GENERIC PART NUMBER	BER	FUNCTION	NO.		TEC	FECHNOLOGY		8	F. NO.	REF.NO. RECORD
139		QUAD C	QUAD COMPARATOR	OR	BIPC	BIPOLAR	 	 ·	1-108	850
MANUFACTURER	 	PART NUMBER	UMBER		SPEC	SPECIFICATION	NOI	O	DATA SOURCE	RCE
ADVANCED MICRODEVICE	VICE	LM139		 		1 1 1 1 1	; { { } † †	JPL	JPL	f 1 1 1 1
Œ	PART	. QTV.	BIAS							
NONE 2.5MEV EL	:	4	C K	(- -	 	 	; ; ; ;	! ! ! ! !	i i !	!
CUM. DOSE (RADS):	0			75K	7	150K	3	300K	9	6 00 K
PARAMETERS	MEAN	S	MEAN	SD	MEAN	S	MEAN	S	MEAN	S
DVOS MV DIOS NA DIB NA ISINK MA	16.7		. 28 1.5 76. 15.15		. 42 2.6 112. 14.55	. 42 . 0909 2.6 . 8614 112 . 6.415 14.55 . 3403	4.6 164. 13.3	.7 .1645 4.6 1.170 164. 11.40 13.3 .3500	1. 10. 256 11.7	1 2 174 1 2 174 19 89 5 . 2944

	1 1 1) -			2		ACT . NO. ACCORD
139		QUAD COMP	QUAD COMPARATOR	10R	BIP	BIPOLAR	; ; ;	-	1-109	860
MANUFACTURER		PART NUMBER	UMBER		SPE	SPECIFICATION	NOI	DA	DATA SOURCE	RCE
ADVANCED MICRODEVICE	VICE	LM139	; 	 	î 1 1	! ! ! !	; ; ; ; ; ;	- IAD	JP.L	!
LDC RAD. TYPE		PART OTY.	BIAS							
NONE 2.5MEV EL	! !	4	CNK	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	 	} 	; ; ; ;	 	 	
CUM.DOSE(RADS):			1	75K	=	150K	3	300K	Ğ	600K
PARAMETERS	MEAN	SD	MEAN	SD	MEAN SD	SO	MEAN	SO	MEAN	SD
DVOS MV DIOS NA	-		2.2	.0451	39	.0635	. 64 5.9	.0928	10.5	1415
DIB NA ISINK MA	16.9		75. 15.45	75. 5.034 15.45 .7544	110. 7	7.456	170.	10.97	270.	270, 16,95 12,15,5852

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GENER	GENERIC PART NUMBER	MBER	FUNCTION	NO		TEC	TECHNOLOGY		2.	EF.NO.	REF.NO. RECORD
139			OUAD	OUAD COMPARATOR	TOR	BIP	BIPOLAR	 		1-110	870
MANUF	MANUFACTURER		PART NUMBER	JUMBER		SPE	SPECIFICATION	NOI	DA	DATA SOURCE	JRCE
ADVANC	ADVANCED MICRODEVICE	VICE	LM139] 		1	1		JPL	JPL	
LDC	RAD. TYPE PART QTY.	PAR	T 0TY.	BIAS							
NONE	2.5MEV EL	!	4	CNK.	1] 			1
CUM. DC	CUM. DOSE(RADS):	- 1	0		75K	. .	150K	ř	300K	U	600K
PARAMETERS	TERS	MEAN	SD	MEAN	SD	MEAN	SD	MEAN	SO	MEAN	SD
DV0S MV	2	! ! !	1 1 1 1	.2	.1149	٠.	.1553	•	.2722	•	.3880
DIOS	⊴ -			4.2	. 7065		2.4 2.036		1.705		3.307
ISINK MA	A A	16.6		85. 14.3	85. 77.32 14.3 1.135		175. 67.26 13.4 1.408		230. 66.65 12.4 1.464		310, 63,83 10,9 1,415

NBC.	R BIPOLAR 1-111 880	SPECIFICATION DATA SOURCE	do		1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	K 150K 300K 600K	SD MEAN SD MEAN SD	.0839 .4 .1251 .64 .1677 1.2 .2359 .5248 1.65 .9884 3.2 .9095 8. 2.438
FUNCTION	QUAD COMPARATOR	PART NUMBER	LM139	141	4 UNK.	75K	SD MEAN	1.2.5
GENERIC PART NUMBER	139	MANUFACTURER	D MICRODEVICE	LDC RAD. TYPE PART OTY.	Α .	CUM.DOSE(RADS): 0	PARAMETERS MEAN	DVOS MV DIOS NA

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GENERIC PART NUMBER	BER	FUNCTION	N N		TECH	TECHNOLOGY		RE	REF.NO. RECORD	ECORD	
139	 	QUAD C	QUAD COMPARATOR	OR	BIPOLAR	LAR		 	1-112	830	
MANUFACTURER		PART NUMBER	UMBER		SPEC	SPECIFICATION	ION	DA	DATA SOURCE	ICE	
ADVANCED MICRODEVICE	VICE	LM139	i 	† 		i i i		JPL		 	
_	PART	OTY.	BIAS							.; ; ; ;	
NONE 2.5MEV EL	!	4	CNK.	1 1 1 1 1	 	 	; f. f. f. f. f.	 			
CUM. DOSE(RADS):	J	0		75K	ħ	150K	30	300K	9	600K	
PARAMETERS	MEAN	SO	MEAN	SO	MEAN	SO	MEAN	SD	MEAN	SD	
DVOS MV DIOS NA DIB NA ISINK MA	14.9		. 25 1.2 86.	.25 .1261 1.2 .8929 86. 25.94 13.35 .7805	2.8 82. 12.65	.46 .2086 2.8 .6467 82. 83.78 12.65 .822	4.2 188. 11.7	.7 .3171 4.2 1.730 188. 29.48 11.7 .8426	. 88 8.4 272. 10.1	.88 .2617 8.4 2.601 272. 20.46 10.1 .9798	

REMARKS:

AUAD COMPARATOR BIPOLAR INCED MICRODEVICE LM139 RAD. TYPE PART QTY. BIAS 2.5MEV EL 4 UNK. DOSE(RADS): 0 75K 150K 300K IMETERS MEAN SD MEAN SD MEAN SD IMETERS MEAN SD MEAN SD IMETERS MEAN SD MEAN SD IMETERS MEAN SD IMET	GENERI	GENERIC PART NUMBER	BER	FUNCTION	NO.		TECH	TECHNOLOGY	 	RE	REF.NO.	REF.NO. RECORD
ACTURER PART NUMBER SPECIFICATION CED MICRODEVICE LM139 RAD. TYPE PART QTY. BIAS 2.5MEV EL 4 UNK. CSE(RADS): 0 75K 150K 300K ETERS MEAN SD MEAN SD MEAN SD MV . 25.0556 .38.0916 .61.146 MV . 25.0556 .38.0916 .61.146 NA RAT 1.67 3.2 1.530 6.2.02 NA RAT 157 120 19 53 195	139		i i i	OUAD C	OMPARAT	OR	BIPC	LAR	ı	 	1-113	006
CED MICRODEVICE LM139 RAD. TYPE PART QTY. BIAS 2.5MEV EL 4 UNK. GSE(RADS): 0 75K 150K 300K ETERS MEAN SD MEAN SD MEAN SD MV . 25.0556 .38.0916 .61.146 MV . 25.0556 .38.0916 .61.146 NA RAT 15.7 120.19.30 6.2.02 NA RAT 15.7 120.19.31 35.90.71	MANUFA	CTURER		PART N	UMBER		SPEC	IFICAT	NOI	DA	DATA SOURCE	RCE
AND TYPE PART QTY. BIAS 2.5MEV EL 4 UNK. OSE(RADS): 0 75K 150K ETERS MEAN SD MAN SD MEAN SD MAN S	ADVANC	ED MICRODE	VICE	LM139	1 1 1 5 1	- - - - - -	; † !	 - - - - -	1 1 1 1 1 1	[육		
2.5MEV EL 4 UNK. OSE(RADS): 0 75K 150K ETERS MEAN SD MEAN SD M WY .25 .0556 .38 .0916 NA 15 120 19 53	rpc	RAD. TYPE	PART	. QTY.	BIAS							
ETERS MEAN SD MEAN SD MEAN SD M """	NONE	2.5MEV EL	1	4	CNK	 	1 	 	; 	 	; ; ; ;	
ETERS MEAN SD MEAN SD M MV .25 .0556 .38 .0916 NA 1.8 1.067 3.2 1.530 NA 85 15 57 120 19 53	CUM.DC	SE(RADS):	Ų	•		ž.	#	30K	30)OK	w i	600K
MV	PARAME	TERS	MEAN	SD	MEAN	SO	MEAN	SD	MEAN	SD	MEAN	SD
	DVOS N DIOS N	 	1 1 1 1 1	1 	. 25 1.8 85.	,	. 38 3.2 120.	.0916 1.530 19.53	.61 6. 135.	. 1468 2.022 90.70	12.4 280.	.2225 1 3.847 34.22

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GENERIC PART NUMBER	IBER	FUNCTION	NO		TEC	TECHNOLOGY		<u>~</u>	EF.NO.	REF.NO. RECORD	
139		QUAD C	QUAD COMPARATOR	TOR	BIP	BIPOLAR	I 	 	1-114	910	
MANUFACTURER	, ,	PART NUMBER	UMBER		SPE	SPECIFICATION	NOI	2	DATA SOURCE	RCE	
ADVANCED MICRODEVICE	VICE	LM139		- - - - - - -	!	 	 	; 5	JPL	1	
LDC PAD, TYPE PART QTY.	PAR	T OTY.	BIAS								
NONE 2.5MEV EL	i } !	4	CNK.	1 1 1 1 2 1	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1] 		1 1 1	1] 	
CUM. DOSE (RADS):	· ·			75K	= :	150K	ĕ	300K	9	600K	
PARAMETERS	MEAN	SO	MEAN	SD	MEAN SD	SD	MEAN	SD	MEAN	SD	
DVOS MV DIOS NA	! ; !	[. 26	.26 .0756	. 4. 1 . 1 . 1 . 1 . 1	. 1345	.72	.72 .2062	1.16	.3095	
DIB NA ISINK MA	15.7		60.	60. 19.55 4.6 1.455	92. 13.8	92. 23.40 13.8 1.367	148 148	3.6 .6388 148, 29.30 12.8 1.383	9.1 236.	9.1 .7297 236. 37.41	

GENERIC PART NUMBER	MBER	FUNCTION	NOI		TEC	TECHNOLOGY		2	REF.NO. RECORD	RECORD
139		QUAD	QUAD COMPARATOR	TOR	BIP	BIPOLAR	I 	1	1-115	920
MANUFACTURER		PART	PART NUMBER		SPE	SPECIFICATION	10N	70	DATA SOURCE	RCE
ADVANCED MICRODEVICE	EVICE	LM139	 	 	!	: ! ! !	1	J	JPL	
LDC RAD. TYPE PART QTY.	E PART	OTY.	BIAS							
Ο.	4	! !	SK.	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	# # # #	!		, 		1
CUM, DOSE(RADS):	0	 		75K	<u> </u>	150K	ĕ	300K	Ğ	600K
PARAMETERS	MEAN	SO	MEAN	SD	MEAN	SO	MEAN	SD	MEAN	SD
DVDS MV BIOS NA DIB NA ISINK MA	15.2		4.8 82. 13.5	.0418 .0660 10.08	2.1 120.	.0592 .3025 14.98	.74 4.4 178.	. 74 . 1268 4.4 . 8179 178 . 22 . 87 11.5 . 3697	•	1.18 .1839 11.2 1.492 270 .35.50 9.9 .2062

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GENERIC PART NUMBER	MBER	FUNCTION	NO		TEC	TECHNOLOGY		ž	REF.NO. RECORD	RECORD
139	- - - -	OUAD CD	QUAD COMPARATOR	ror	BIP	BIPOLAR	1	; ~- !	\$-116	930
MANUFACTURER		PART NUMBER	UMBER		SPE	SPECIFICATION	NOI	2	DATA SOURCE	RCE
ADVANCED MICRODEVICE	EVICE	LM139	 	! ! ! ! !	<u>;</u> !]	 	ŭPL	
LDC RAD. TYPE PART QTY.	E PART	. QTV .	BIAS							
NONE 2.5MEV EL	4	 	CNK.	 		 	[]]]]	! ! ! !	; ; ;	1
CUM.DOSE(RADS):				75K	.	150K	Ř	300K	ĕ	600K
PARAMETERS	MEAN	SD	MEAN	SD	MEAN	SD	MEAN	SD	MEAN	SD
DVDS MV DIOS NA DIB NA ISINK MA	16.6		. 22 1.5 82. 15.35	.0471 .7684 13.15	.37 2.4 116.	.37 .1055 2.4 1.225 116. 17.70 14.8 .6131	3.8 1 170. 21	.58 .1848 3.8 1.521 170. 24.80 3.95 .7848	8.4 8.4 260.	.9 .2877 8.4 2.784 260. 36.27

REMARKS:

GENERIC PART NUMBER	LUMBER	FUNCTION	No		TECH	FECHNOLOGY		R	F.NO.	REF.NO. RECORD
139		OUAD C	QUAD COMPARATOR	TOR	BIPOL	BIPOLAR	 	;	1-117	940
MANUFACTURER		PART NUMBER	UMBER		SPE	SPECIFICATION	NOI	Ď	DATA SOURCE	RCE
ADVANCED MICRODEVICE	DEVICE	LM139	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1]	1	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1			JAN
LDC RAD. TYPE	PE PART	PART QTY.	BIAS							
NONE 2.5MEV EL	EL	4	UNK.	 	1 1 1 1	 	1	: : : : :	1	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
CUM.DOSE(RADS):	:		,-	75K	<u> </u>	150K	ř	300K	9	600K
PARAMETERS	MEAN	SD	MEAN	S	MEAN	S		S	MEAN	SD
DVOS MV DIGS NA DIB NA ISINK MA	4 C		2. 7. 0. t.	.2 .1091 .7 .3762 .70. 13:65	.5	.5 .1069 75866 110. 18.43	1.49	1.49 1.473 2. 1.267 170. 25:13	3.4 89.	3.4 4.405 89. 3.116 270. 35.26

REF.NO. RECORD 1-118 950

TECHNOLOGY BIPOLAR

QUAD COMPARATOR FUNCTION

GENERIC PART NUMBER

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DATA SOURCE	JPL.		†	900 8	MEAN SD	1.5 .2882 10.2 4.163 295. 24.87
			1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	300K	MEAN SD	.67 .1743 4.4 2.935 192. 14.55
SPECIFICATION	1 1 1 1 1 1 1 1 1 1		 	150K	MEAN SD	2.4 2.721 130. 7.461
UMBER		BIAS	UNK.	75K	i	. 29 . 0445 1.6 1.432 95. 5.553
PART NUMBER	. —	RAD. TYPE PART GTY.		0	MEAN SD	
MANUFACTURER	ADVANCED MICRODEVICE	LDC RAD. TYPE	••	CUM.DOSE(RADS):	PARAMETERS	DVOS MV DIOS NA DIB NA

REMARKS:

GENER	GENERIC PART NUMBER	N N	fBER	FUNCTION	NOI		TEC	TECHNOLUGY		æ	F. NO.	REF.NO. RECORD
139	·			OUAD COM	QUAD COMPARATOR	TOR	BIP	BIPOLAR	1 ! !	-	1-119	096
MANUFACT	MANUFACTURER			PART	PART NUMBER		SPE	SPECIFICATION	NOI	۵	DATA SOURCE	RCE
ADVANC	ADVANCED MICRODEVICE	RODE	VICE	LM139		 	!		1	JPL	JPL	
LDC	RAD.	TYPE	PART	RAD. TYPE PART OTY.	BIAS							
NONE	2.5MEV EL	. SMEV EL	4	 - - - -	C NK					1 1 1	1	1
CUM.DO	CUM.DOSE(RADS):	S):		•		75K	=	150K	ñ	300K	g	600K
PARAMETERS	TERS		MEAN	S	MEAN	SD	MEAN	SD	MEAN	So	MEAN	QS SD
DVOS MV	2 4		; i i	t 	.25	.25 .0525	.39	.39 .0848	į.	. 1241	1.2	1.2 .1503
DIB	4				79.	79. 9.282	112.	112. 9.800		4.4 1.335 168, 10.39	10.2	10.2 2.450 258 12 11
ISINK MA	¥		16.2		14.95	1.652	14,35	1.821		13.7 2.169	12.5	2 629

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GENERI	GENERIC PART NUMBER	MBER	FUNCTION	NO.		TEC	TECHNOLOGY	_	œ	REF.NO. RECORD	RECORD
139		1 	OUAD C	OUAD COMPARATOR	TOR	BIP	BIPOLAR	 	-	1-120	970
MANUFA	MANUFACTURER		PART NUMBER	UMBER		SPE	SPECIFICATION	NOI	<u> </u>	DATA SOURCE	RCE
ADVANCED	ADVANCED MICRODEVICE	EVICE	LM139	! !	 		 	 	1	JPL	
LDC	RAD. TYPE PART OTY.	E PART	OTV.	BIAS							
NONE	2.5MEV EL	: !	4	C N] † 1 !	1	 	; f l	t 	† 	1 1 1 1
CUM. DO	CUM.DOSE(RADS):		•		75K	¥*	150K	К	300K	ğ	800K
PARAMETERS	TERS	MEAN	S	MEAN	SO	MEAN	SD	MEAN	SD	MEAN	SD
DVOS MV		t 1 1 1	! !	.2	.0993	9.	6119	i	3.974	i	8.337
Noin	⋖ •				.6920	1.7	1.7 1.520		5.2 2.434	-	13.6 8.020
N SIO	·			82.	8.747	120	120, 12,53	185.	85. 18.42	•	285. 24.77
ISINK MA	¥.	1 5		14.54	1.024	14.22	.9832	<u>t</u>	1.014	13, 18	3.18 .8103

GENER1	GENERIC PART NUMBER	IBER	FUNCTION	NO		TEC	TECHNOLOGY		32	REF.NO.	RECORD
139			QUAD C	QUAD COMPARATOR	TOR	BIP(BIPOLAR	! ! ! !	: -	1-124	980
MANUFA	MANUFACTURER		PART N	PART NUMBER		SPE(SPECIFICATION	NOI	DA	DATA SOURCE	SCE
NATIONAL SE	NATIONAL SEMI.		LM139	; ; ; ; ;	! ! ! !					JPL	
LDC	RAD. TYPE	PAR	PART QTY.	BIAS							
NONE	2M MEV EL	!	4	CNK.	 	1	1	 	 	; ; ;	!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!
CUM. DO	CUM. DOSE(RADS):		0	•	12K	17	31K	•	62K	**	125K
PARAMETERS	TERS	MEAN	SO	MEAN	SD	MEAN	SO	MEAN	SD	MEAN	QS.
DVOS MV DIOS NA	≥ ≰ •			.000	.0001 3355	.000 .006	.0002	.0108	.0079	1 1 1 5	FAIL
DIB NA ISINK MA	MA	11.4		6.95	.5389	. 205		.31 3.3	. 4329		FAIL

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GENER	GENERIC PART NUMBER	MBER	FUNCTION	NO		TEC	TECHNOLOGY	_	2	REF.ND. RECORD	RECORD
139		! ! !	OUAD	QUAD COMPARATOR	TOR	BIP	BIPOLAR	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	+	1-122	066
MANUF	MANUFACTURER		PART NUMBER	UMBER		SPE	SPECIFICATION	.10N	Q	DATA SOURCE	RCE
PRECIS	PRECISION MONOLITHIC	THIC	LM139		 	!		!	JAD -	JPL	I I I I I
TDC	RAD. TYPE PART OTY.	PAR	T QTY.	BIAS							
7924	2.5MEV EL	! !	4	CNK.	 	1	 	1] 		1 1 1 1
CUM. DC	CUM.DOSE(RADS):		0	•	75K	₹	150K	ř	300K	9	600K
PARAMETERS		MEAN	SD	MEAN	So	MEAN	SD	MEAN	SO	MEAN	SD
DVOS MV	2	! ! !	† ! ! !	80	. 5534	2.5	2.5 .7262	4.25	4.25 .9473	4.35	1.599
DIB NA	<u> </u>			62.	12. 6.603 62. 53.00	78.	78. 47.36 124. 81.93	175.	175. 58.23 158 66 92	245.	245, 45,45
ISINK MA	MA	9.97		6.15	6.15 .5560	4.35	4.35 5188	. A	3.4 4041		74.00

GENERIC PART NUMBER	MBER FUNCTION	NOI	TECHNOLOGY		REF.NO. RECORD	RECORD
139	VOLT C	VOLT COMPARATOR	BIPOLAR		24-26	1240
MANUFACTURER	PART N	PART NUMBER	SPECIFICATION	TION	DATA SOURCE	JRCE
NATIONAL	LM139F		COMMERCIAL		ROCKWELL	
LDC RAD. TYPE	PART OTY.	_				
0	 	V+=NONINV-IN	V+=NONINV-INPUT(3,4)=INV-INPUT(1,2)=OUTPUT=15V *	INPUT(1,2):	=OUTPUT=	 15v *
CUM.DOSE(RADS):	0	30K	100K	300K		
PARAMETERS	MEAN SD	MEAN SD	MEAN SD	MEAN SD	MEAN	SD
D VOS MV D IOS NA D IIB NA		155 0.728 108 2.042 58.25 11.24	544 2.033 -5.94 20.83 246.4 101.7	020 4.864 -3.93 172.1 660.6 155.8	1 4 - 8	

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NERIC PART NUMBER: 139	
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GENER	GENERIC PART NUMBER	NON TO	fBER	FUNCTION	NO		TEC	FECHNOLOGY		2	EF.NO.	REF.NO. RECORD
139				COMPAR	COMPARATOR-VOLT)LT	819	BIPOLAR		t -	4	.670
MANUF	MANUFACTURER	œ		PART NUMBER	IUMBER		SPE	SPECIFICATION	N	۵	DATA SGURCE	RCE
AMD	; ; ; ;		! ! !	LM139	 	; ; ; ;	f 1	, , , , , , ,	! ! ! !	! E ! !	MOTOROLA	
CDC	RAD.	RAD. TYPE		PART OTY.	_							
7742	09-00	0	; 		2 DEVI	CES VI	D=36V,	2 DEVICES VDD=36V, VCC=30V; 1 DEVICE VDD=7V, VCC=5V	. 10	EVICE	VDD=7V,	VCC=5V
CUM.D	CUM.DOSE(RADS):	(SQ):	0	•	u,	50K			. 1		i	!
PARAM	PARAMETERS		MEAN	SD	MEAN	S	MEAN	S	MEAN	SD	MEAN	SO
AVOL	AVOL V=15 K IIO V=7 NA	¥¥	372.2	372.2 110.0 088 1.002	268.8	100.3	# 	 	 		 	1 1 1 1 1
110	V=30	¥2	108	108 .8393	242 1.403	1.403						
I CC	V=7 V=7	A Z	26.18 .7467	26.18 3.706 .7467 .0231	7167	2.891 .0252						

GENERIC PART NUMBER	ART NUN	ABER	FUNCTION	Z		TECH	TECHNOLOGY		RE	REF.NO, RECORD	ECORD
139	1		QUAD COMPARATOR	MPARAT	0.8	BIPC	BIPOLAR	\$ 6 6 6 6	-	; ; ; ;	1700
MANUFACTURER	RER		PART NUMBER	JMBER		SPEC	SPECIFICATION	ION	DA	DATA SOURCE	CE
SILICON GENERAL	ENERAL	! ! !	SG139F	! ! ! ! !	! ! ! !	! !	! ! ! !	t ! ! ! !	.	MOTOROLA	1
LDC RA	RAD. TYPE		PART QTY.	BIAS							
7911 CO	09-00		1 1 1 0	UNBIASED	ED.	! ! ! !	- - 	6 	} ! ! ! !	1 - - - - - - -	# ! !
CUM. DOSE (RADS):	RADS):	O		•	1 0K	1	SO SO SO SO SO SO SO SO SO SO SO SO SO S	10	100K		
PARAMETERS	S		SD	MEAN	SD	MEAN	S	MEAN	SD	MEAN	SD
AVOL V= 15	Υ¥	274.8 108.4 .9089 . 1629	108.4	206.3	77.90	125.8	47.88	91.70	35.81	; ! ! !	i ! !
VIO V=7		4.423 3	8567 1494	4.275	4.275 3.159	3.558	3.558 2.688	3.516	2.532		
110 V=7	Z Z	76.36 3.931	76.36 6.016 3.931 4.389	104.4 12.86 5.194 4.748	12.86	136.5 28.67 6.278 5.715	28.67	142.8 24.70 5.278 7.884	24.70		

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GENERIC PART NUMBER: 139	ž.
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GENERI	GENERIC PART NUMBER	MBER	FUNCTION	ION		TECI	TECHNOLOGY		Ľ	REF.NO. RECORD	RECORD
139		 	QUAD	QUAD COMPARATOR	TOR	BIPOL	BIPOLAR	1	- 4	401-4	1760
MANUFAC	MANUFACTURER		PART	PART NUMBER		SPE	SPECIFICATION	NOI	۵	DATA SOURCE	RCE
UNKNOWN	Z) ; ; ;	LM139	! . ! !	1	!	 	1	-	INSAT PCC 860	C 860
LDC	RAD. TYPE		PART OTY.	: -							
7939D	09-00		ខ	C N						1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	
CUM. DO	CUM. DOSE (RADS):		•		16 K						
PARAMETERS	TERS	MEAN	SD	MEAN	SO	MEAN	SD	MEAN	SD	MEAN	SD
VIO 110 18+ VSAT	> 4 4 > E Z Z	1 1 1 1	1 1 1 1	1.814 2.740 167.8	1.814 .3487 2.740 2.157 167.8 18.25			1 1	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		!
5	Þ			2017	5.2						

GENERI	GENERIC PART NUMBER	RBER	FUNCTION	Š		TEC	TECHNOLOGY	>	œ	REF.NO. RECORD	RECORD
139		 	QUAD COM	QUAD COMPARATOR	TOR	BIP	BIPOLAR	1		100	1760
MANUFA	MANUFACTURER		PART NUMBER	UMBER		SPE	SPECIFICATION	NOI	۵	DATA SOURCE	RCE
11			LM139J	i t i i i	 	<u> </u>		 	13	WESTINGHOUSE	OUSE
LDC	RAD. TYPE		PART QTY.	BIAS							
78838	09-00		S.	\G+=+2	V+=+5V, V-=GND	Q		1	!	 	1 1
CUM. DO	CUM.DOSE(RADS):			4	400K						
PARAMETERS	TERS	MEAN	S	MEAN	SO	MEAN	SD	MEAN	SD	MEAN	SD
VI0S 118 10S	D V V	. 1100	. 1100 . 1563 336 . 0182 . 0465 . 1360	.0935	.0935 .1352 360 00000 .0365 0.137	t	1	 			!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!

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GENERI	PART	MBER	FUNCTION	N.		TECH	TECHNOLOGY		RE	. NO.	REF.NO. RECORD
139	1 1 1 1 1	1 1 1 1 1	OUAD COM	QUAD COMPARATOR	OR	BIPOLAR	LAR	 	6	00	1770
MANUFA	MANUFACTURER	10.4 10. 10.	PART NUMBER	JMBER		SPEC	SPECIFICATION	NO	DA	DATA SOURCE	JRCE
NS	} 	 	LM139N	i i t i i	1 1 1 1 1	! ! ! !	 	 	E E	WESTINGHOUSE	HOUSE
TDC	RAD. TYPE PART GTY.	E PART	. 0TV	BIAS		1					-
802314	09-00	1 f 1 1 1	ו ו ו ו ו	V+=+5V	V+=+5V, V-=GND						
CUM. DO	CUM.DOSE(RADS):			40	400K	; ;	!	 	i 	į	 1 1 1
PARAMETERS	TERS	MEAN	SD	MEAN	SD	MEAN	SD	MEAN	SD	MEAN	SD
VIOS 11B 10S	M N N N	.0810 279 .0300		.0415 338 .6905							

GENER1	GENERIC PART NUMBER		FUNCTION	NO.		TECH	TECHNOLOGY		~	_	RECORD
139	! ! ! ! !		OUAD C	QUAD COMPARATOR	OR	BIPOLAR	LAR		. -	100	1780
MANUFA	MANUFACTURER		PART NUMBER	UMBER		SPEC	SPECIFICATION	NOI	_	DATA SOURCE	CE
FAIRCHILD	ILD	} 	LM139	[]]]	1	; ! !	 	! ! ! !	: 3 !	WESTINGHOUSE	USE
TPC	RAD. TYPE PART QTY.	PART	OTY.	BIAS							
8025	09-00		i iv	\\ \+=+2\	. V- T	V+=+5V, V- TIED TO GND	QND	; ; ; ;			
CUM. DC	CUM.DOSE(RADS):			40	400K				-		1
PARAMETERS	ETERS	MEAN	SD	MEAN	SD	MEAN	SD	MEAN	SD	MEAN	SD
VI0S IIB	NA N	. 0370	.0370 .1943		-, 116 1,911 -, 119 .4780	 			- 1		
IOS	Ϋ́	0600.	.0329		1.714						

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GENERI	GENERIC PART NUMBER	MBER	FUNCTION	NO		TECH	TECHNOLOGY		R	F.NO.	REF.NO. RECORD
139	 	i . i i i	QUAD C	QUAD COMPARATOR	OR	ВІРС	BIPOLAR	 	06	301-4	1790
MANUFA	MANUFACTURER		PART NUMBER	IUMBER		SPEC	SPECIFICATION	NOI	DA	DATA SOURCE	JRCE
A M D	! ! ! ! ! ! !	 	LM139AF	<u> </u>	1	:	! ! ! !] 	FO	ORD A/S	FORD A/S CORP.
LDC	RAD. TYPE PART OTY.	: PAR	T QTY.	BIAS							
S .	09-00	 	5	V+=+15V	>	! ! ! ! ! !	 	7 1 1 1 1	 	; ; ; ;	
CUM. DO	CUM.DOSE(RADS):		0	16	160K						
PARAMETERS	TERS	MEAN	SD	MEAN	SD	MEAN	SO	MEAN	SD	MEAN	S
D VIO D IIO D IB+ D V(SAT)	MV NA NA	1.11.1		2.180 .2695 2.180 .8843 89.02 29.01	2. 180 . 2695 2. 180 . 8843 39.02 29.01						

GENERI	GENERIC PART NUMBER	UMBER	FUNCTION	N _O		TECH	TECHNOLOGY		RE		ECORD
139	 	t t t t	OUAD C	QUAD COMPARATOR	OR	ВІРС	BIPOLAR	 	0. 1. 1.	301-3	1800
MANUFACTURER	CTURER		PART NUMBER	UMBER		SPEC	SPECIFICATION	NOI	DA	DATA SOURCE	C.
AMD	! ! ! ! ! !	 	LM139AF		! ! ! !	i	1 1 1 1 1 1	1 1 1 1 1	F0	FORD A/S CORP.	CORP.
rDC	RAD. TYPE PART QTY.	PE PAR	T OTY.	BIAS		•					
CNK.	09-00	1 1 1 1 1	5	V+=+15V	>	; ! ! ! ! !	[; ; ; ; ;	 	; 	i 1 1 1
CUM.DO	CUM.DOSE(RADS):	••	0	16	160K						
PARAMETERS	TERS	MEAN	SD	MEAN	SD	MEAN	S	MEAN SD	SD	MEAN	SD
D VIO D IIO D IB+ D V(SAT)	M NA			19.20 .0217 .3000 1.551 69.20 2.851	.0217 1.551 2.851 .0045				1 f f f 1	 	

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REMARKS:

GENERIC PART NUMBER: 139

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GENER	GENERIC PART NUMBER	MBER	FUNCTION	NO		TEC	TECHNOLOGY	<u> </u>	•	REF.NO. RECORD	RECORD
139			QUAD COM	QUAD COMPARATOR	TOR	BIP	BIPOLAR	1		301-1	1810
MANUF	MANUFACTURER		PART NUMBER	IUMBER		SPE	SPECIFICATION	NOIL	u	DATA SOURCE	JRCE
AMD	1 	# . - -	LM139	 		!	!		1	FORD A/S CORP	SCORP
LDC	RAD. TYPE		PART OTY.	BIAS							
UNK.	CO00	; ; ;	S .	V+=+15V	5V				 	1	} ! ! !
CUM. DC	CUM.DOSE(RADS):		0	*	160K						
PARAMETERS	TERS	MEAN	S	MEAN	SD	MEAN	SO	MEAN	SD	MEAN	SD
D VID D IIO D IB+ D V(SAT)	MV NA NA V			3.260 65.42	3.260 2.810 65.42 9.128 .0280 .0148	I I I I			1 1 1 1	1	

REMARKS:

GENERIC PART NUMBER	ш.	ION	TECHNOLOGY	.0GY	REF.NO.	REF.NO. RECORD
139	QUAD	QUAD COMPARATOR	BIPOLAR		301-2	1820
MANUFACTURER	PART	PART NUMBER	SPECIFICATION	CATION	DATA SOURCE	URCE
АМБ	LM139AF		 		FORD A/S CORP	SCORP
LDC RAD. TYPE	PART OTY.	BIAS				
UNK. CD-60	4	V+=+15V		1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	 	1
CUM.DOSE(RADS):	0	160K				
PARAMETERS	MEAN SD	MEAN SD	MEAN SD	MEAN	SD MEAN	SS
VIO MV IIO NA IB+ NA V(SAT) V		065 .0265 600 .5477 55.20 5.719			-	

REMARKS:

TECHNOLOGY BIPOLAR

QUAD COMPARATOR

FUNCTION

GENERIC PART NUMBER

DATA SOURCE
INSAT PCC 860

SPECIFICATION

PART NUMBER

MANUFACTURER

. S S S

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PARAMETERS MEAN SD MEAN SD MEAN SD MEAN SD VID MV -1.13 0.34 -1.01 0.34 IID NA -0.72 0.27 -1.22 0.38 IB+ NA 34.72 3.71 86.80 11.51 V 0.222 0.016 0.216 0.011	CUM.DOSE(RADS):	0	-	16K						
	METERS	MEAN -1.13 -0.72 34.72 0.222 C	MEAN -1.01 -1.22 86.80	SD 0.34 0.38 11.51	3	SO	MEAN	QS	MEAN	SO

V+=+15V

BIAS

RAD. TYPE PART GTY.

09-00

LDC 79230

REMARKS:

11111				LECTINOLOGY		KET.NO. KECUKD	KECOKE
139		QUAD C	QUAD COMPARATOR	BIPOLAR	; ; ; ; ; ; ; ; ; ;	805-10	4540
MANUFA	MANUFACTURER	PART N	PART NUMBER	SPECIFICATION		DATA SOURCE	RCE
NSC	1 ! ! ! ! ! !				. [- - -		
TDC	RAD. TYPE	PART OTY.	BIAS				
8021	09-00	9	UNK.	+ 	! ! ! ! !	; ; ! !	; ; ; ;
CUM. DO	CUM. DOSE (RADS):	0	12.5K	25K	50K		100K
PARAMETERS	TERS	S	MEAN SD	MEAN SD	MEAN SD	MEAN	SD
-(18+) 10S	N N N	21.50 3.03 208 2.179 029 .9265	61.33 5.483 .292 2.739 067 .9815	89.33 6.443 1.117 4.979 .0166 1.041	135.0 16.03 2.825 5.718 .1416 1.219		175.8 23.97 2.167 12.10
ISINK	¥	11.50 2.067	10.71 2.126	8.833 2, 125	7.208 2 179	_	000

REMARKS: *NEGATIVE DF PARAM. VALUE UȘED TO CONSERVE SPACE (FOR SIGNIFICANCE).

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139 MANUFACTURER	!	TEATHER TOWN OF THE	100 F 10				1 1 1 1 5	110	:	200
ANUFACTURER		1	ָּבְּרַ נְכְּבָּ	FAKAIK	110	BIFULAR		2	-	
		PART NUMBER	JMBER		SPEC	SPECIFICATION	NO	DATA	ra source	3CE
PMI		PM139A	# # # # # # # # # # # # # # # # # # #	1		t † 1 1	; ; ; ;	TRW		
LDC RAD. TYPE		PART OTY.	BIAS							
8147 CD-60	!		V+=12V	,	-NON=0	N INP	NI L	V+=12V, V-=GND=NON-INV INPUT. INV IN=1V. OUTPUT=NC	OUTP	UT=NC.
CUM. DOSE(RADS):	0		e).	30K	v	60K	¥	100K		
PARAMETERS	MEAN	SO	MEAN	SD	MEAN	SD	MEAN	SD	MEAN	SO
0S (A) * MV	0.46	0.31	09.0	0.54	0.62	0.57	1.18	0.91	! ! !	
IOS (A) NA	5,98	1.59	2.69	2.38	11.03	7.20	44.44	29.97		
(¥)	-72.8	15.60	- 166.	29.93	-268.	62.52	-380.	158.9		
(8)	-	8 .0	0.4	0.5	6.0	0.4	6.0	0.4		
(8)	4.51	2.23	2.45	- 18	15.29	-	30.45	30.07		
(8)	-78.8	16.4	-152,	25.	-204.	44.2	-222.	64.		

PART NUMBER SPECIFICATION PM139A PART QTY. BIAS O 30K 60K 100K		FUNCTION	:	REF.NO.
PART NUMBER SPECIFICATION PM139A TYPE PART QTY. BIAS S): 0 30K 60K 100K	1		BIPOLAR	5101
RAD. TYPE PART QTY. BIAS DOSE(RAUS): 0 30K 60K 100K	MANUFACTURER	PART NUMBER	SPECIFICATION	DATA SOURCE
RAD. TYPE PART QTY. BIAS	: 	PM139A		F
XO9 XOE O		!		F
X09 X0E 0				
	CUM.DOSE(RALS):	30K		

CUM.DOSE(RALS):	RALS):		_	m	30K	w	30K	₽	90 K		
PARAMETER:	S		SD		SD	MEAN	SD	MEAN	SD	MEAN	S
*(C) *	. ¥	0.5	0.2	0.5	0.1	0.7	0.2		0.4	 	
10S (C)	X A		1.53		4.70	26.23	13,74	60.28	19.47		
1B (C)	Ą		16.2		27.	-226.	55	-271.	105		
(D) SOA	> E		0.51		0.38	0.92	0.33	1.32	0.76		
(O) SOI	Ą		0.69		1.38	5.48	6.05	21.26	19.73		
18 (D)	Ą		16.4		32.	-258.	77.	-380.	164.		

REF.NO. RECORD

TECHNOLOGY BIPCLAR

QUAD COMPARATOR

FUNCT TON

GENERIC PART NUMBER

139

1051

OR	GINAL	PAGE 19	
OF	POOR	QUALITY	,

MANUFACIONER	PART N	PART NUMBER	SPECIFICATION	NOI	DATA SOLIDER	u
FAIRCHILD	UA 139DB	8	! ! ! ! !	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	TRW	
LDC RAD, TYPE		BIAS				
8021 C0-60 + N*	10	V+=12V, V-=NONINV-INPUT=GND, 1V@INV-INPUT, NC@OUTPUT.	INV-INPUT=GND, 1V@INV-INPUT, NC@DI	D, IVEINV-IN	PUT, NC@DUT	PUT.
CUM. DOSE(RADS):	0	*N+10K	*N+20K	*N+30K		
PARAMETERS ME	MEAN SD	MEAN SD N	MEAN SD	MEAN SD	NA TAN	! 6
M N N N N N N N N N N N N N N N N N N N	0.723 0.495 0.722 0.689 24.49 4.693	0.723 0.495 0.910 0.708 0.722 0.689 4.687 3.075 124.49 4.693 91.74	1.948 1.418 3.255 2.920 14.91 12.09 31.54 32.21	3.255 2.920 31.54 32.21	-	2 :

REMARKS: ALL PARAMETERS AVG. OF 4 COMPARATORS. *NEUTRONS: 6.E11 N/SQCM.

GENERIC PART NUMBER	FUNCTION	TECHNOLOGY	OF F	DEE NO DECODE
139	OUAD COMPADATOR			י אבינואט
	NO TRUE INCOME.	BIFULAR	1068	5700
MANUFACTURER	PART NUMBER	SPECIFICATION	South South	ייים
AMD	AM139		TRW	1000
LDC RANN TYPE PAR	PART QTY. BIAS			
*N + 09-00	10 V+=+12V.		1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	
CUM.DOSE(RADS): 0	*N+100K	*N+300K+N*	*N+500K	
PARAMETERS MEAN	SD MEAN SD	MEAN SD MEAN	SD MEAN	as 2
VOS MV 135 (VREF=1.4V)	135 .0775 .225 .150	.5975 .1350 1.255	5 . 1825	1
	.1438 .0708 .1955 ,0853	.6395 .1320 1.342 .1868	2 .1868	
VOS MV 1383 (VREF=0.0V)	.1383 .0718 .2099 .0852	.6736 .1180 1.352 .1853	2 . 1853	
SEE REC 5701.				

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GENERIC PART NUMBER		FUNCTION		TECH	TECHNOLOGY		2	F.NO.	REF.NO. RECORD
139	QUAD	QUAD COMPARATOR	OR	BIPOLAR	BIPOLAR		<u> </u>	1068	5701
MANUFACTURER	PART	PART NUMBER		SPEC	SPECIFICATION	NOI	DA	DATA SOURCE	JRCE
AMD	AM139	 			† - - 	: 1 1 1 1	# # # #	 	!
LDC RAD, TYPE	E PART OTY.	BIAS							
N+100K							 	i 	i t t t
CUM.DaSE(RADS):	0	N+300K	¥	N+500K	X _Q				*
PARAMETERS	MEAN SD	MEAN	SD	MEAN	SD	MEAN	SD	MEAN	as
IOS NA IB NA VSAT MV IO MA	2.373 2.147 42.58 3.79 9.56 1.185 1.785 .2975	7 2.284 2.078 9 62.47 5.40 5 17.94 1.748 5 3.863 .495	5.078 5.40 1.748	2.476 86.44 30.02 5.535	2.476 1.474 86.44 7.68 30.02 2.578 5.535 .6625	4.111 104.7 42.24 6.633	4.111 2.520 104.7 9.333 42.24 4.205 6.633 .775		

REMARKS: *CONTINUATION OF RECERD 5700.

G	ENEF	GENERIC PART NUMBER	RT NU	MBER	FUNCTION	NO		TECF	TECHINOLOGY		8	F.NO.	REF.NO. RECORD
· 	140	f f f	[] 	 	3-TERM	3-TERM POS REGULATR	GULATR		BIPOLAR	; 	1 8	805-12	260
Σ	ANUF	MANUFACTURER	Ε. Ε.		PART NUMBER	UMBER		SPEC	SPECIFICATION	ION	Ď	DATA SOURCE	RCE
· Z	NSC		[i i i	LM140-5]]] 1 !	ā 	1	! ! !	11	1	
	רםכ	RAD	RAD. TYPE		PART GTY.	BIAS							
l #	 * *	09-00	09	; ; ;	 	UNK.	 	; ; ; ;	 		: : :	 	! ! ! !
Ö	UM.E	CUM.DOSE(RADS):	ADS):		C	12.5K	SK SK		25K		50K	-	100K
۵	ARAN	PARAMETERS		MEAN	!	MEAN	S	MEAN	S	MEAN	SD	MEAN	SD
	OAD	REG	Me	9.167	. 2582	9.750	.4564	10.28	1.972	10.17	2.041		11.08 3.241
> .	5		>	5.030		5.028	.0333	5.034	.0332	5.036	.0333		.0333
	I NE	LINE REG*	≩ ≩	. 1833	.0408	.0667	.0577	1833	. 1571	200	1000 .0796		6250 .0639
۲	Ž	KEGTT	> E	- 4.		500.	. 1560	808	1480	765	1307		. 1862

PAGE A-115	77.化学校院经济的经济的经济的经济的的现在分词的现在分词的现在分词的现在分词的现在分词的现在分词的现在分词的现在分

GENERIC PART NUMBER: 140	**************************************

GENERIC	GENERIC PART NUMBER	MBER	FUNCTION	S		TEC	TECHNOLOGY		RE	F.NO.	REF.NO. RECORD
140		! : !	VOLTAGE	VOLTAGE REGULATOR	ATOR	BIPC	BIPOLAR		5	1027	5280
MANUFACTURER	TURER		PART NUMBER	UMBER		SPEC	SPECIFICATION	ION	DA	DATA SOURCE	IRCE
NATIONAL			LM140LAH-5	AH-5	! ! ! !		 	; ; ; ; ; ;	TRE	3	
LDC	RAD. TYPE PART OTY.	E PART	. оту	BIAS							
7841	09-00	20		VIN=10	VIN=10V; VOUT=5V; RL=2400HMS	T=5V; F	:L=2400	HMS.	; d l l		: : : :
CUM. DOS	CUM.DOSE(RADS):	0		¥	1 00 4	Ř	300K	50	500K	:	
PARAMETERS	rers	MEAN	SO	MEAN	S	MEAN	SD	MEAN	S	MEAN	SD
VOUT(1)(2)	(2) V	4.995 0.029	0.029	4.986	4.986 0.031	4.989	4.989 0.030	4.985 0.031	0.031	; ! !	! ! ! !
VDUT(1)(3)) (3) (7)	4.993 0.028	4.993 0.028	4.983	4.983 0.030	4.985	1.985 0.030		4.980 0.032		
VOUT (5)(2)	(2)	5.000 0.028	0.028	4.988	4.988 0.030	4.992	4.992 0.037		4.990 0.031		
VOLITE	7 (7)	700 7	8000	1 99 1	000	4 083	080		031		

5281.
REC
8
*CONT
5)VIN=6V.
4)IL=40MA.
3)IL=20MA.
2)IL=1MA.
1)VIN=7V.
MARKS:

GENERIC PART NUMBER		NOI.				REF.NO. RECORD
140		VOLTAGE REGULATOR	BIPOLAR	# 	1027	5281
MANUFACTURER	PART	PART NUMBER	SPECIFICATION	CATION	DATA SOURCE	URCE
NATIONAL	EM140	≥M140LAH~5	; ; ; ;	,	: : :	
LDC RAD. TYPE	RAD. TYPE PART GTY.	BIAS				4 1 1 1 1
CUM.DOSE(RADS):	0	100K	300K	500K	v	
PARAMETERS	MEAN SD	MEAN SD	MEAN SD	MEAN	. -	MEAN SD

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7)VIN=20V.
5) VIN=10V.
D 5280.
FROM RECORI
CONTINUED FR
REMARKS:

4.995 0.030 4.984 0.031 5.010 0.029 5.004 0.030 4.997 0.031

4.997 0.030 4.987 0.030 5.010 0.030 5.005 0.030 4.998 0.031

0.030 0.031 0.031 0.031

5.004 4.997 5.009 5.006 5.006

VOUT(6)(2) VOUT(6)(4) VOUT(7)(2) VOUT(7)(3) VOUT(7)(4)

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GENERIC PAR NUMBER	YAK N	Calc R			1	1					
14051			8 CHAN	NEL	8 CHANNEL MUX DEMUX	CMDS	CMDS	 	! ! ! !	25-31	1570
MANUFACTURER	TURER		PART NUMBER	UMBEI	α	SP	CIFI	SPECIFICATION		DATA SOURCE	URCE
MOTOROLA	A	1 1 1	MC14051R	표		į	i 	! ! ! !		AEROJET	! ! ! ! !
TDC	RAD. TYPE		PART OTY. BIAS	BIA	10						
7719	09-00	! ! ! !		C K	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	; ; ;	i 	1 1 1 1 1	i i i	1 1 1 1 1 1	! ! ! !
CUM.DOS	CUM.DOSE(RADS):	•	0		12K						
PARAMETERS	ERS	MEAN	SO	MEAN	as	MEAN	SS	MEAN	SD	MEAN	So
0.0		SPASS	 	SPASS	SS	; { { }				i ! ! !	‡ † † †
11		SPASS		SPASS	SS						
IIN		SPASS		SPASS	SS						
IUP QUI	ESCENT	SPASS		SFAIL							
IDD DYN	DYNAMIC	5PASS		PASS*	**						
TH		SPASS		PASS*	**						
TLH		SPASS		PASS*	*.						
DEMADES . * TOD	*100	ALT THE	D K G C L	2	AAID TILL DECORATE CTOMITECONITY OF AN ANIA STRUCTURE CONTRACTOR			1 1 1 1 1 1 1 1 1 1 1 1			

GENERIC PART NUMBER	SER FUNCTION	NO	TECHNOLOGY	-0GY	REF		REF.NO. RECORD
141	2-CH.	2-CH. ANALOG SWITCH	CH OFET	#	1026	!	5290
MANUFACTURER	PART NUMBER	UMBER	SPECIF	SPECIFICATION	DAT	DATA SOURCE	GE GE
SILICONIX	DG141AL			 	TRE) } ! ! !	! ! !
LDC RAD. TYPE	PART OTY.	BIAS					
7926 CD-60	10	FINS 1,7,1	1 @+10V: B.	FINS 1,7,11 @+10V; 8,14 VIA 10K TO GND; 9,13,10GND	O GND:	9, 13,	10GND
CUM. DOSE (RADS):	0	25K	50K	75K	¥	Ď	100K
PARAMETERS	MEAN SD	MEAN SD	1	MEAN		WEAN	SO
1S(0FF) PA 1D(0FF) PA 1D+1S(0N) PA 1N(LOW) PA 1N(HI) MA RDS(ON) OHMS	-45.3 71.49 -18.4 25.70 17.71 15.88 -96.7 71.65 -5.03 2.367	-176. 33.90 -256. 32.18 34.58 8.289 -337. 28.01 -7.14 2.677 6.966 0.950	. 481. 9.342 8 -99.1 61.81 8 68.37 9.097 1 -598. 180.4 7 -8.49 3.023 8.177 5.536	-885. -2314. 105.0 -1204. -9.46		-1445 22.45 -4245 325.9 144.6 26.29 -1809 328.2 -10.2 3.329	22.45 325.9 26.29 328.2 3.329

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GENERIC PART NUMBER	FUNCTION 2-CH. ANALOG SWITCH	TECHNOLOGY UFET	FUNCTION TECHNOLOGY REF.ND. RECORD 2-CH. ANALOG SWITCH JET 1026 5291
MANUFACTURER	PART NUMBER	SPECIFICATION	DATA SDURCE

BIAS PART QTY. RAD. TYPE LDC

SD 383.3 24.51 673.3 55.86 373.3 19.06 681.3 47.75 SD MEAN 363.3 14.94 701.0 35.66 SD SŞ MEAN S 25K 327.8 13.27 852.5 24.26 S 0 MEAN CUM. DOSE (RADS): TOFF PARAMETERS

REMARKS: CONTINUED FROM RECORD 5290.

GENERIC DADT NUMBER			
THE	TONCILON	TECHNOLOGY	REF.NO. RECORD
444	TRIPLE OP AMP	BIPOLAR	25-8 1580
MANUFACTURER	PART NUMBER	SPECIFICATION	DATA SOLIDCE
SILACONIX	L144BP		AEROJET
LDC RAD. TYPE PAR	PART OTY. BIAS		
7440 C0-60	5 V*=5V, V-=-5V	V=5V, V==-5V, TYPICAL CIRCUIT	
ADS):	0 12K	50K 160K	350K
PARAMETERS MEAN	SD MEAN SD	MEAN SD MEAN SD	MEAN SD
VIO MV 0 IIO NA 1.2 IB NA 32 IQ UA 122 GBW KHZ 566	0.3 7.7 2.2 2.2 2.2 2.2		1.3 3.3 122 95

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REMARKS: ALL PARAMS. PASSED. GBW DEGRADED: PREIRRAD MAX=534KHZ, POST MAX=291K.

GENERIC PART NUMBER	ABER	FUNCTION	NOI		TEC	TECHNOLOGY			REF.NO. RECORD	RECORD	
144	! !	OPERA'	OPERATIONAL AMP	AMP	BIPOL	BIPOLAR	 	[2.1	1840	
MANUFACTURER	. !	PART	PART NUMBER		SPEC	SPECIFICATION	NOI		DATA SOURCE	RCE	
NSC		LM144H883B	1883B		1980	NSC	1980 NSC LINEAR CAT	AT	MAGNAVOX	1 1 1 1	
LDC RAD. TYPE		PART QTY.									
09-00	+	12	V+=+18	3VDC;V-	V+=+18VDC;V-=-18VDC			!		1	
CUM. DOSE (RADS):		0		SK SK							
PARAMETERS	MEAN	SD	MEAN	SS	MEAN	EAN SD	MEAN	SD	MEAN	SO	
DVOS DIOS PA DIB PA		1 ? !	-28.5 -39.2 -855	300. 50.2 3188		 	1]]] [1	1 1 1 1	
DAUL DB D+VOUT V D-VOUT V D+SLEW V/MSEC REMARKS:			983 0214 005 032	4.23 .0298 .0516 .0681							

GENER	GENERIC PART NUMBER	MBER	FUNCTION	NO	· :	TECH	TECHINOLOGY	_	œ	EF. NO.	REF.NO. RECORD
51			OPERAT	OPERATIONAL AMP	AMP	BIPC	BIPOLAR	1	1.4	401-7	1740
MANUFA	MANUFACTURER		PART NUMBER	IUMBER		SPEC	SPECIFICATION	NOI	۵	DATA SOURCE	JRCE
PRECI	PRECISION MONOLITHIC	ITHIC	0P-15	 	 		 	1	! HH	INSAT PCC 860	098 0
LDC	RAD. TYPE		PART OTY.	BIAS						•	
N	09-00] 	V+=+7	.5V, V-	V+=+7.5V, V-=-7.5V, TYPICAL NEG FEEDBACK CIRCUIT	TYPIC	AL NEG	FEEDB	ACK CIR	CUIT
CUM. DE	CUM. DOSE(RADS):	0		=	1MEG						
PARAMETERS	ETERS	MEAN	SD	MEAN	So	MEAN	SO	MEAN	SD	MEAN	SÖ
VOS	₩	 	 	-2.13	6752	1 - 1 - 1		1 1	1 1 1	1	1 1 1 1
18+	ΡΑ			512.0	512.0 102.1						
18-	ΡΑ			490.0	87.46						
IOS	ΡA			38.00	48 17						

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ORIGINAL PAGE 19 OF POOR QUALITY

GENERI	GENERIC PART NUMBER	MBER	FUNCTION	NO		TECH	TECHNOLOGY		RE	REF.NO. RECORD	RECORD
15	 	 	OPERATI	OPERATIONAL AMP	MP	BIPOLAR	LAR		40	401-8	1750
MANUFA	MANUFACTURER		PART NUMBER	UMBER		SPEC	SPECIFICATION	NOI	DA	DATA SOURCE	RCE
PRECIS	PRECISION MONOLITHIC		0P-15	[! ! ! !	! ! !	F F C C C C C C C C C C C C C C C C C	 	I N	INSAT PCC 860	098 0
CDC	RAD. TYPE		PART OTY.	BIAS	1		:				
NA	09-00			V+=7.5	. V.	V+=7.5V, V-=-7.5V, TYPICAL NEG FEEDBACK CIRCUIT	TYPICAL	NES F	EEDBAC	K CIRC	UIT
CUM. DO	CUM.DOSE(RADS):	0		70	700K	80	BOOK	6	900K	-	1MEG
PARAMETERS	TERS	MEAN SD	SO	MEAN	SD	MEAN SD	SD	MEAN SD	SD	MEAN	
VOS IB-	N A	-2.10	-2.10 .6595 0.0 0.0	-2.20 .6595 .7800 .8585	. 6595	-2.20 .6000 .4600 .2702	.6000	-2.26	-2.26 .5369 .0600 1.078	-2.18	-2.18 6458 .8000 .9592

GENERI	GENERIC PART NUMBER	JMBER	FUNCTION	N O		TEC	TECHNOLOGY		8	REF.NO.	RECORD
1524	 	 	REG PU	LSE WI	REG PULSE WIDTH MOD	i .	BIPOLAR	; ! ! ! ! !	<u> </u>	1014	5130
MANUFA	MANUFACTURER		PART NUMBER	UMBER		SPE	SPECIFICATION	ION	DA	DATA SOURCE	RCE
SILICON GEN	N GEN	! ! !	SG1524	 	; ; ; ; ; ;	i !	1 1 1 1 1	 	TRE	3]
רםכ	RAD. TYPE		PART OTY.	BIAS							
8180	09-00		1 ; ! †	VDD=+12V	12V.	; 	} ; ; ; ;	, f f f l	; ; ; ; ;	 	[
CUM.DO	CUM.DOSE(RADS):		0		50K	7	100K	Ř	300K		500K
PARAMETERS	TERS	MEAN	SS	MEAN	SD	MEAN	S	MEAN	SO	MEAN	SD
V REF	>	5.064	0.021	5.060	0.018	5.060	0.018	5.060	0.019	5.060	0.019
V SHUT	V SHUT-DOWN V	0.828	0.025	0.825	0.026	0.823	_	0.821	0.025	0.820	0.026
OSC F	KHZ	13.28	0. 19	13.32	0.21	13,35		13.40	0.55	13.44	0.23
OSC PW		680.0	44.0	687.4	43.7	691.2		0.669	46.6	703.4	46.5
VOH(12	>	11.95	0.00	11.94	0.00	11.94	0.00	11.95	0.00	11.94	0.00
VOL (12)		0.332	0.017	0.339 (0.019	0.340	_	0.346	0.019	0.34€	0.346 €.019
PW (12) MS	46.1	7.0	46.0	0.8	45.9	0.8	45.7	0.8	45.4	6.0
REMARKS	S:										

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GENERI	GENERIC PART NUMBER	MBER	FUNCTION	NO	į	TECH	TECHNOLOGY		ā	REF.NO.	œ
154			ANALOG	ANALDG SWITCH	-	UFET		 	!	1042	5440
MANUFA	MANUFACTURER		PART NUMBER	UMBER		SPEC	SPECIFICATION	NOI	۵	DATA SOURCE	JRCE
SILICONIX	XIN] ! ! !	DG154AL		 		 	[; F	TRW	; ; ; ; ;
LDC	RAD. TYPE PART QTY.	E PAR	r otv.	BIAS							
7623	09-00	4	 - - -	VCC=+1	15V; VE	E=-15V;	PINS:	VCC=+15V; VEE=-15V; PINS: 13@+2.5V, 5,7@+7V, *	5V, 5	70+77	*
CUM. DO	CUM. DOSE (RADS):		C	1(100K	36	300K	50	500K		
PARAMETERS	TERS	MEAN	SD	MEAN	SD	MEAN	SD	MEAN	SD	MEAN	OS .
ID(OFF) RDS(ON) IS(OFF)	NA OHMS NA	0.005 24.53 .0005	0.005 0.002 24.53 1.449 .0005 .0002	0.788 23.04 0.570				11.45 10,31 24,67 1.801 8,086 7.787	10:31 1:801 7:787		·· 4 ·····.

REMARKS: *1,2,3,6,8,14 @ -7V.

GENERIC	GENERIC PART NUMBER	ABER	FUNCTION	N		TEC	TECHNOLOGY		RE	F. NO.	REF.NO. RECORD
154		. : . : . :	ANALOG S	ANALOG SWITCH	1 	UFET	 		<u> </u>	1043	5450
MANUFACTURER	TURER		PART NUMBER	JMBER		SPEC	SPECIFICATION	NOI	DA	DATA SOURCE	RCE
INTERSIL			DG154/A	! 	 	!		; ; ; ; ;	TRW	TR.W	1 1 1 1 1
TDC	RAD. TYPE		PART QTY.	BIAS							
7640	09-00	S		VCC=+1	5V; VE	E=-15V;	VCC=+15V; VEE=-15V; PINS: 13@+2.5V, 5,7@+7V, *	13@+2.	5V, 5,	7@+7V.	
CUM.DOSE(RADS):	(RADS):		0	10	100K	30	300K	200	500K		
PARAMETERS	RS	MEAN		MEAN	SD	MEAN		MEAN	S	MEAN	SD
1D(0FF) RDS(0N) 1S(0FF)	NA NA	0.004 21.78 .0005	0.004 0.005 21.78 5.136 .0005 .0002	1.170 0.771 22.89 4.196 0.283 0.197	0.771 4.196 0.197	5.118 22.91 1.889	5.118 3.605 22.91 4.188 1.889 1.664	6.678 4.435 22.79 4.375 2.223 1.849	4.435 4.375 1.849		

GENERIC PART NUMBER

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GENERIC PART NUMBER	T NUMBE		FUNCTION	Z		TECI	TECHNOLOGY		_	REF.NO. RECORD	RECORD	
155		 !	OP AMP		1	BIFET	BIFET			1052	5540	
MANUFACTURER	æ		PART NUMBER	MBER		SPE	SPECIFICATION	NOI.		DATA SOURCE	RCE	
NATIONAL	1 4 5 1 1 1 	;	LF 155	i 	1	!		 	1	TRW	!	
LDC RAD.		PART	OTY.	BIAS								
	CD-60 + N*	\$	[V+=+15V:	V+=+15V; V-=-15V.	-15V.	!	 			 	
CUM.DOSE(RADS):	DS):	0		*N+200K	Š				•			
ARAMETERS	ME/	MEAN SD	SD	MEAN	S	MEAN	SD	MEAN	S	MEAN	SD	
	MV .87	8732 . .0011 .	.8732 .5805 .0011 .0009 116.5 2.52	13.39 60.36 117.3	13.39 39.41 60.36 94.23 117.3 7.85		1	1		!	 	

REMARKS: **NEUTRON FLUENCE = 6.E11 N/SQCM. NOTE: FAILED PARAMETERS DELETED.

GENERIC PART NUMBER	NUMBER	FUNCTION	NO		TEC	TECHNOLOGY		8	F. NO.	REF.NO. RECORD
155		OP AMP		1 1 1 1 1	BIFET	3IFET		1 2	1053	5550
MANUFACTURER		PART NUMBER	UMBER		SPE	SPECIFICATION	NO I	Õ	DATA SOURCE	RCE
NATIONAL	! ! ! !	LF 155	!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!	 		1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	 	; ;		
LDC RAD. TYPE	_	. OTY.	_							
	*N +	10	V+=+15	V+=+15V; V-=-15V.	-15V.	 	1	; ; ; ;		
CUM. DOSE (RADS):	ö	•	*N+200K	, XOC						
PARAMETERS	MEAN	SO	MEAN SD		MEAN	S	MEAN	SD	MEAN	as
VOS MV AVOL DB	111 .8828	.8828 2.236	.2801	.2801 1.785 111.6 2.648	1 1 1 1 1	; ; ;	1			1

REMARKS: *NEUTRON FLUENCE = 6.E11 N/SQCM. NOTE; FAILED PARAMETERS DELETED.

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GENER	GENERIC PART NUMBER	JMBER	FUNCTION	NO		TECH	TECHNOLOGY	3	REF	. NO	REF.NO. RECORD
156	, 	i 	OP-AMP	 	! ! ! !	BIP(BIPOLAR	1 1 1 1 1 1 1	13] † !	1680
MANUF	MANUFACTURER		PART NUMBER	UMBER		SPEC	SPECIFICATION	NOIL	DAT	DATA SOURCE	RCE
AMD	• • • • • • • • • • • •	!	LF 156H	: 	1	<u> </u>	! ! !	! ! ! ! !	MOM	MOTOROLA	
rpc	RAD. TYPE PART OTY.	E PARI	r oty.	BIAS							
i 	09-00	4	1 F I I	V+=20	, V=-	20V, RI	=2K,	V+=20V, V-=-20V, RL=2K, VIN-=VD, VIN+=3V	E=+NIA		
CUM.D	CUM.DOSE(RADS):	:		•••	25K	ŭ	500K				i
PARAM	PARAMETERS	MEAN	SD	MEAN	SD	ME AN	SO	MEAN	SO	MEAN	SD
ICCL	* MA	391.8		449.5	94.18		92.50				
70 A	> >	106.3	3.379	104.1	104.1 12.09		103.0 10.51				
VIL	>	2.248		2.113	1.504		1.509				
VIH	>	.0243		1438	. 1662		.7778				
IIL	Ϋ́	011	.0037	.0075		. 1655	. 1853				
IOS	¥	3.825	. 7932	3.300	1.214	3.238	1.575				
REMARKS:	KS: *7740DB	•									

GENERI	GENERIC PART NUMBER	BER	FUNCTION	NO		TEC	TECHNOLOGY		3	F .NO.	REF.NO. RECORD
158	! 	! ! !	OP-AMP	 	 	ВІРС	BIPOLAR	 	200	501-1	1520
MANUFA	MANUFACTURER		PART NUMBER	UMBER		SPEC	SPECIFICATION	NOI	DA	DATA SOURCE	RCE
NS		 	LM158	; 	 		! ! ! !	 	MA	MARTIN	t f l t
rpc	RAD. TYPE	PART	PART OTY.	BIAS							
7827	09-00		9	CNK	 	: 	{ 	1 - - 	 	; ; ; ; ;	•
CUM.DO	CUM.DOSE(RADS):		0	20K	* (1		1		ļ	!
PARAMETERS	TERS	MEAN	SD	MEAN	SD	MEAN	SD	MEAN	S	MEAN	SD
70S 18 10S	NA V	.6267 19.92 1.183	6267 . 4299 19.92 18.64 1.183 1.165	.5717 14.19 .6967	.3489 17.81				t , e		

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REMARKS: * INCLUDES LINAC EXPOSURE (LESS THAN 20 RADS)

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GENERI	GENERIC PART NUMBER	WBER	FUNCTION	NO.		TECH	TECHNOLOGY		RE	F.NO.	REF.NO. RECORD
158			LOW PW	LOW PWR DUAL OP AND	OP AND	ı	BIPOLAR	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	=	1100	5800
MANUFACTURER	CTURER		PART NUMBER	UMBER		SPEC	SPECIFICATION	NOI	DA	DATA SOURCE	JRCE
NATIONAL		# 	LM158	1 1 1 1 1 1	1		! ! !	1 1 1 1 1 1	MA	ARTIN-N	MARTIN-MARIETTA
LDC	RAD. TYPE		PART OTY.	BIAS							- ·
7827	**09-00	 	9	\+=+2 \		{	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	! ! ! ! !	! ! ! ! !	; ; ; ;	1 6 1
CUM. DOS	CUM.DOSE(RADS):			8	20K	ល	50K	đ	100K		
PARAMETERS	ERS	MEAN	SS	MEAN	SD	MEAN	SD	MEAN	SD	MEAN	SD
FUNCTIONALITY VOS MV IB* NA	DNALITY MV NA NA	6PASS . 627 19.92 1.18	6PASS .412 .627 .412 19.92 17.85 1.18 1.11	6PASS .572 .321 14.19 17.05	. 321 17.05 . 865	MARG* .552 9.675	. 252 16.68 . 929	6FAIL .558 7.09	. 130	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	!

*"DEVICE FAILS BEYOND SOK...IR AND IOS DATA MISLEADING." REMARKS: **AND LINAC.

GENERIC PART NUMBER	MBER	FUNCTION	Z		TEC	LECHNO! DEV		ä	. u	ACCOUNT NO
	1 1		!	1) - 1		1	1		אניניאני
159		OP AMP			BIP	BIPOLAR		÷	1-31	1080
MANUFACTURER		PART NUMBER	UMBER		SPE	SPECIFICATION	NOI	D4	DATA SOURCE	JRCE
RCA CORPORATION		G159R	1 1 1 1	i 	! !	! ! ! !	 	JPL	PL	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
LDC RAD. TYPE		PART QTY.	BIAS							
8016 2.5MEV EL		4	S X	! ! ! !	 	! ! !			1	1 1 1 1 1 1
CUM. DOSE(RADS):	•			75K	Ñ	250K	7	750K	2.	2.5MEG
PARAMETERS	MEAN	SD	MEAN	SO	MEAN	SD	MEAN	SD	MEAN	SD
DVOS MV DIOS NA DIB NA +GAIN DB -GAIN DB	2.5 1.45 117. 101.	1 	8.4 17.5 185. 100.	8.4 6.042 17.5 9.574 185. 79.32 100. 1.323	13. 10.2 290. 100.	9.781 13.00 108.0 2.861 3.879	12.5 18.5 460. 100.	12.5 9.430 18.5 14.82 460. 197.4 100. 2.401 98. 9.870	1.	FAIL FAIL FAIL FAIL

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GENERIC PART NUMBER	ıı	ION		TECI	TECHNOLOGY		R.		RECORD
159	OP AMP		: : : : :	81.0	BIPOLAR	; ; ; ; ; ; ;	+ +	1-32	1090
MANUFACTURER	PART	PART NUMBER		SPE	SPECIFICATION	ION	DA	DATA SOURCE	SCE.
RCA	G159R		! 	i 	 	; - - - -	JPL		
LDC RAD. TYPE	E PART OTY.	BIAS							
NONE 2.5MEV EL	L 4	C I	; ; ; ; ;	! ! !	 	i - - - - -	! ! ! !	 	; ! ! !
CUM. DOSE (RADS):	0	•	75K	Ñ.	250K	7.	750K	2.5MEG	WEG
PARAMETERS	MEAN SD	MEAN	SD	MEAN	SD	MEAN	S.	MEAN	SD
DVOS MV	2.44	2.3	•	1.3	1.245	1.	1.704		FAIL
DIOS NA	87.6	26.	17.86	64.	92.51	35.		75.	86.60
DIB NA	346.	430.		760.	573.9	700.		1050.	225.8
+GAIN DB	26.5	96			FAIL				FAIL
-GAIN DB	102.	.96		90.	4.499	88	1.250	,	FAIL

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GENERI	GENERIC PART NUMBER	ABER	FUNCTION	NO		TECH	TECHNOLOGY		ž	F. N	R	REF.NO. RECORD
1596			BALANC	BALANCED MOD-DEMOD	DEMOD	BIPOL	BIPOLAR	! 	; ¥ ¦	1034		5360
MANUFA	MANUFACTURER		PART NUMBER	UMBER		SPEC	SPECIFICATION	NOI	2	DATA SOURCE	SOUR	CE
MOTOROLA	LA	! ! !	MC 1596	! ! ! !	! !	; ; ;	, , , ,	 	: L	TRW		! ! !
TDC	RAD. TYPE		PART OTY.	BIAS								
7747L	09-00	; ; ; ;	r.	PINS:	PINS: 14@-8V; 1,4@GND; 5 TO GND VIA 6.8K; 8 TO 10*	1,400	ND; 5	TO GND	VIA 6	 X	8 1	9
CUM.DO	CUM.DOSE(RADS):		0)	100K	3	300K	ũ	500K			
PARAMETERS	TERS	MEAN	SD	MEAN	SO	MEAN	SD	MEAN	SD	MEAN	Z	SD
1B(c)	 	6.594	6.594 1.427	9,624	1.147	13.80	1.107		1.201	1	!	í ! !
10S(C)		-0.36 6.88	-0.36 0.339 6 88 1 454	9 744	355	-0.21	-0.21 0.316		16 42 1 119			
105(5)	¥:	0. 198	0.198 0.476	0.244	. 502	0.242	0.242 0.529		0.244 0.570			
102(0)		-13.0	-13.0 14.26	-12.9	-12.9 14.55	-12.5	-12.5 14.13	-12.7	13.85			

REMARKS: *; +12V VIA 1K TO 12 AND 6, THEN VIA 1K TO GND.

RECORD

REF.NO.

TECHNOLOGY BIPOLAR

FUNCTION OP AMP

GENERIC PART NUMBER

9

DATA SGURCE

SPECIFICATION

PART NUMBER

PRECISION MONOLITHIC

MANUFACTURER

OR	IGINAL	PAGE	S
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LDC	RAD.	TYP	PAR	RAD. TYPE PART OTY.	_					1		1
7926	2.5M	2.5MEV EL	i.		UNK.		; ! ! !	 				
CUM.DOSE(RADS):	SE(RA	(SQ)				30K	• 6	75K	150K	150K	20	500K
PARAMETERS	TERS		MEAN		MEAN	SD	MEAN SD	SO	MEAN	SD	MEAN	SD
DVOS MV		1	 	 	. 16	. 1562	198	. 2508	. 204	.3251		.3249
N SOID	⋖				010	.1146	4	.2 .2690	. 55	.4450		. 5958
DIB NA	¥				. 22	. 2844	<u>ත</u>	.5350	-	. 7784		1.758
+GAIN DB	90		104		102.1	3.497	103.4	3,738	102.6	102.6 7.182		102.6 3.917
-GAIN DB	90		99.3		105.2	105.2 2.511	106.6	106.6 2.255	103,6	3.806		1.884

REMARKS:

GENERIC	PART	GENERIC PART NUMBER	FUNCTION	NO		TECHN	TECHNOLOGY		RE	EF.NO.	REF.NO. RECORD
161			HI-SPE	HI-SPEED COMPARATOR	ARATOR	<u> </u>			08	805-11	550
MANUFACTURER	TURER		PART NUMBER	UMBER		SPEC	SPECIFICATION	NOI	DA	DATA SOURCE	RCE
NSC	 		LM161						11		
LDC	RAD. TYPE		PART OTY.	BIAS				! ! ! ! !	; ; ; ;	; i i i	! ! ! ! !
6008	09-00	!	4	CNK.		·					
CUM.DOSE(RADS):	SE (RAD	s):	0	12.5K	χ	(N)	25K	(C)	50K		100K
PARAMETERS	rers	MEAN	08	MEAN	SD	MEAN	SD	MEAN	SD	MEAN	SD
V0S IB+ -I0S	¥ A A A		* * *		1.050 .4061 3.175 1.009 1.550 .3110	1.050 3.575 1.800		1.025 4.125 1.925		1.075 5.100 2.225	1.075 .4071 5.100 1.160 2.225 .2987

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OF	POOR	QUALI	ΊY

GENERI	GENERIC PART NUMBER		FUNCTION	N.	. :	TECH	TECHNOLOGY	. j	RE	F.NO.	REF.NO. RECORD
161			VOLT COMPARATOR	OMPARAT	OR	ВІРС	BIPOLAR		24	24-27	1250
MANUFA	MANUFACTURER		PART NUMBER	JMBER		SPEC	SPECIFICATION	NOI	DA	DATA SOURCE	IRCE
NATIONAL	AL.		LM161			COM	COMMERCIAL		2	ROCKWELL	
TDC	RAD. TYPE PART QTY.	E PART	QTY.	BIAS							
7846	09-00	 		V+= 15/	, V-=-	V+=15V, V-=-15V, VCC=5V)C=5V	; ; ; ; ;	; ; ; ; ;	i 	[]
CUM. DO	CUM.DOSE(RADS):	0			30K	7	100K	30	300K		
PARAMETERS	TERS	MEAN	S	MEAN SD	SD	MEAN	SD	MEAN	SD	MEAN	S
D THRE D THRE D IIB O IIB	THRES/V+MV THRES/V-MV IIB + UA			2.480 1.632 2.410 1.680	2.480 4.575 1.632 5.066 2.410 0.854 1.680 0.865		-10.7 3.472 -1.74 6.390 5.432 1.826 3.208 1.489	-16.7 1.105 2.414 7.688 7.256 2.231 4.388 1.769	1.105 7.688 2.231 1.769		

REMARKS:

161				ž		<u>ت</u> -	ובכיוואסרספו		i E		NET : NO. NECOND
CITE OF STREET	 	 	HI-SPEE	ED COMF	HI-SPEED COMPARATOR		E I POLAR	1 1 1 1 1 1	0+	1038	5400
MANOTACIONER	E &		PART NUMBER	JMBER		SPE(SPECIFICATION	ION	DA	DATA SOURCE	RCE
NATIONAL		1 1	LM1614	 	 	! ; ;	 	i · · · · · · · · · · · · · · · · · · ·	TRW	T. R. K.	
	RAD. TYPE	PART	PART OTY.	BIAS			:		ı		
7609 00-60	09	S	 	V+=+12	V+=+12V; V-=-12V	-12V.	1 1 1 1 1	 	 		
CUM. DOSE(RADS):	ADS):			7	100K	ĕ	300K	ព័	500K		
PARAMETERS		MEAN	SD	MEAN	SD	MEAN		MEAN		MEAN	SD
VOS VOL TPDI H		0.854	0.854 0.579 0.264 0.007 24 00 2 667	0.793 0.514 0.268 0.008	0.793 0.514 0.268 0.008	0.807	0.807 0.494 0.273 0.008 25 50 3 206	0.274	0.764 0.492 0.274 0.007		

DATA SOURCE

SPECIFICATION

PART NUMBER

MANUFACTURER

MOTOROLA

BIAS UK.

PART OTY.

RAD. TYPE

09--00

919 20

IRT CORP

S

MEAN

S 170K

MEAN

SD

MEAN

S 뚔

MEAN

SD

MEAN

PARAMETERS

0

CUM. DOSE (RADS):

52K

1.03 0.02 0.11 0.09

1.04 0.02 0.09 0.05

1.06 0.03 0.07 0.02

0.00

1.11 0.03 0.06 0.02 0.13

1SC0 VR(L1) VR(L2) VR(LOAD4) VR(LOAD5)

REMARKS:

360K

REF.NO. RECORD

TECHNOLOGY

FUNCTION VOLT REG

GENERIC PART NUMBER

1723

BIPOLAR

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:1	GENERIC PARI NUMBER		FUNCTION	NO.		TEC	TECHNOLOGY	>	Œ	S	RECORD
1741	12. 7		OP AMP		; ; ; ;	BIPC	BIPOLAR	• • • • • • • • •	42	} † !	96
MANUF	MANUFACTURER	ш.	ART N	PART NUMBER		SPEC	SPECIFICATION	TION	٥	DATA SOURCE	€CE
MOTOROLA	OLA	, «E - -	MC 174 1CG	50	; ; ; ;	<u>;</u> !	1 1 1 1 1	; 1 1 1 1 1	H	IRT CORP	! ! !
LDC	RAD. TYPE	_	0ΤV.	BIAS							
ONE .	09-00] !	V+=15V,		15V. RF	'B= 100	V+=15V, V-=-15V, RFB=100K, VIN+/- TO GND VIA 10K	/- TO	GND VIA	10K
CUM.D	CUM. DOSE(RADS):	0		3. 1K	¥	2	2. 1K	· cc	82K	ĕ	300K
PARAM	PARAMETERS	i	SD	!	SD	MEAN	SD	MEAN	SD	MEAN	SD
VIO	>W		 	2.00		2.50) 	2.20	 	2.30	(.
110	N A	13,80		14.60		13.40		33.50		84.60	
18	Ž	147.0		165.0		204.0		277.0		405.0	
o I	₩	1.600		1 600		1.600		1.600		1.500	
GBW	KHZ	1881		2008		1923		477A		4004	

F "MARKS:

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GENERIC PART NUMBER	NUMBER	FUNCTION	NOI		TECH	TECHNOLOGY			REF.NO. RECORD	RECORD
1802	1 1 1 1	MICROPROC	MICROPROCESSOR	<u>~</u>	CMOS	 		1-1		1170
MANUFACTURER		PART	PART NUMBER	• • • •	SPEC	SPECIFICATION	NOI	DATA	DATA SOURCE	CE
SANDIA	; ; ; ;	1802	1802 (LOT B0442A)	442A)				Jan		
	RAD. TYPE PART QTY.	r otv.	-							1
8046 CD-60	; 	4	VCC=7V	FOR 2	DEVICE	s, vcc	VCC=7V FOR 2 DEVICES, VCC=10V FOR 2 DEVICES	2 DE/	/ICES.	i:
CUM.DOSE(RADS):		0	#	150K	30	300K	600K	¥		
PARAMETERS	MEAN	SD	MEAN	SD	MEAN	SD	MEAN	as	MEAN	SD
FUNCTIONALITY OVC=7V OVC=10V	4PASS		4PASS 4PASS		4PASS 4PASS					

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REMARKS:

GENERI	GENERIC PART NUMBER	NUMBE		FUNCTION	NC		TECH	TECHNOLOGY		RE	F.NO.	REF.NO. RECORD
1802	! ! !	! ! !	!	MICROPRO	MICROPROCESSOR	2	CMDS	1	† 	4-2	2	1490
MANUFA	MANUFACTURER			PART NUMBER	UMBER		SPEC	SPECIFICATION	NOI	DA.	DATA SOURCE	RCE
HUGHES			<u> </u>	HMMP 1802CD	02CD	i i i i	; ! !	t t t f	 	QW.	MOTOROLA	
TDC	RAD. TYPE	LVPE	PART	PART QTY.	BIAS				 - - 			
8032	09-00	 	2	 	20					ŀ		
CUM. DC	CUM.DOSE(RADS):	: ::	0			SK SK	1			1 1 1	i	
PARAMETERS	TERS	Ž	MEAN	SD	MEAN	SD	MEAN	SD	MEAN	SD	MEAN	SD
NTY OTT	- ^ S	0	1.780 1.523 0.005	.0529	1.088 1.805 00.01	. 1794						
DVTN DVTP37		-			. 6946	.0026						

OR	GINAL	PAGE	18
OF	POOR	QUALI	TY

GENERI	GENERIC PART NUMBER	MBER	FUNCTION	NO		TECH	TECHNOLOGY		REF	N N	REF.NO. RECORD
1802			MICROPROC	MICROPROCESSOR	S.	CMOS	10	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	4-1		1500
MANUFA	MANUFACTURER		PART NUMBER	UMBER		SPEC	SPECIFICATION	NOI	DAT	DATA SOURCE	RCE
HUGHES			HMMP 1802CD	02CD	† † † !] 	 		MOT	MOTOROLA	t 1 1 1 1 1
rpc	RAD. TYPE		PART OTY.	BIAS		•					
8030	09-00	8	# 	50	[: ! ! ! !	 	, , , , , ,	1 1 1 1 1 1	!	
CUM. DO	CUM. DOSE(RADS):	0			ξ						
PARAMETERS	TERS	MEAN	SO	MEAN	SO	MEAN	SD	MEAN	SD	MEAN	SD
VTN VTP IDD DVTN DVTP37	> > O	1.844	. 1018	1.176 1.785 10.65 .6922 .4179	. 2341 . 1706 15.06 . 1162 . 0350	1 t t t t	 1 6 1	 	 	† 1 1 1]] ! !

GENERIC	GENERIC PART NUMBER	UMBER		FUNCT I ON	Z	·	TEC	TECHNOLOGY		RE	F . NO.	REF.NO. RECORD
1802			· E	ICROP	MICROPROCESSOR	Œ	CMDS			4	! !	1510
MANUFACTURER	CTURER		•	PART NUMBER	JMBER		SPE	SPECIFICATION	ION	DA	DATA SOURCE	RCE
HUGHES			. II.	HMMP 1802CD	02CD	; ; ;		! ! !	i 	W	MOTOROLA] ! ! ! !
LDC	RAD. TYPE	_	R	PART G"	BIAS							
7940	09-00		2	2	5V	 	; 1 1 1	! ! ! !	 	1	; ; ;	! ! !
CUM. DOS	CUM.DOSE(RADS):	••	0	!		SK SK						
PARAMETERS	FRS	MEAN		SD	MEAN	SD	MEAN	SD	MEAN	SD	MEAN	SD
VTN VTP DVTN DVTP37	>>>> A	1.942 .0574 1.723 .1433 0.010 .0141	1 9 6 0	.942 .0574 .723 .1433	. 5788 2.050 1.318 .3246 0.130	. 1236 . 1231 . 1794 . 0502	1 1 1 !	! ! !	! ! !	1 1 1 1		

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GENERIC PART NUMBER: 1802 ***************

802	****	****	***	PAGE A-130
GENERIC PART NUMBER		NOI	TECHNOLOGY	REF.NO. RECORD
1802	MICROF	MICROPROCESSOR	CMOS	801 1550
MANUFACTURER	PART N	PART NUMBER	SPECIFICATION	DATA SOURCE
HAC	HCMP 1802D2	30202	COMMERCIAL	GSFC PPM
LDC RAD, TYPE PART QTY.	PART OTY.	_		
7808D CD-60	4	+5V,+10V		
CUM.DOSE(RADS):	0	4	ξ	
PARAMETERS MEA	MEAN SD	MEAN SD	MEAN SD MEAN SD	SD MFAN SD
5v 10v	4PASS 4PASS 4PASS	1FAIL 4PASS		

REMARKS:

GENERIC PART NUMBER	FUNCTION	TECHNOLOGY,	REF.NO. RECORD
1802	MICROPROCESSOR	CMDS	801 1560
MANUFACTURER	PART NUMBER	SPECIFICATION	DATA SOURCE
RCA	CDP 1802D	COMMERCIAL	GSFC PPM
LDC RAD. TYPE PART	PART OTY. BIAS		
· ·	+5V, +10V		
CUM.DOSE(RADS):	9 4K	¥9	
PARAMETERS MEAN	SD MEAN SD	MEAN SD MEAN	SD MEAN SD
FUNCTION 5V 6PASS	2FAIL 6PASS	GFAIL SEAT	

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GENERI	SENERIC PART NUMBER	UMBER	FUNCTION	NO	:	TE	TECHNOLOGY	_		REF.NO. RECORD), RE	CORD
1821	[.] - -	 	1024X1	1024X1-BIT RAM	Σ	CMC	CMOS-SOS	, , , ,] - - -	94	;	1640
MANUFA	MANUFACTURER		PART NUMBER	UMBER		SPI	SPECIFICATION	TION		DATA SOURCE	SOURC	ų.
3CA			CDP 182 1D	10	! ! !	; ; ;	; 	! ! !	! ! ! !	J.:L		!
၁၀	RAD. TYPE		PART OTY.	BIAS								
SD832	* 09-00	i i. !	4	VDD= 10)V, PI	NS 1-6	VDD=10V, PINS 1-6,9-16 @ VDD, PIN 7 OPEN, VSS=GND.	VDD.	PIN 7	OPEN.	VSS	GND.
CUM. DO	CUM.DOSE(RADS):		0		16K		20K		25K		30K	¥
ARAMETERS	rers	MEAN	S	MEAN	SD	MEAN	S	MEAN	SS	MEAN	2	SD
ONCTIONALI O VDD =	ONCTIONALITY ON VDD = 5V ON VDD = 10V	4PASS	† † - 	3FAIL 4PASS	! ! ! !	4FAIL		4FAIL 3FAIL	<u> </u>	4FAI	4FAIL 4FAIL	
*												

REMARKS: ** PARAMETERS CONTINUED ON RECORD 1641, * DOSE RATE = 52 RAD(SI)/S.

GENERIC PART NUMBER	JMBER	FUNCTION	NO.		TECH	TECHNOLOGY		RE	F.NO.	REF.NO. RECORD
1821		1024X1	1024X1-BIT RAM	[\S	CMOS	CMDS-SOS	1	94	1 1	1641
MANUFACTURER		PART NUMBER	UMBER		SPEC	SPECIFICATION	NOI	DA	DATA SOURCE	JRCE
RCA	; ! ! !	CDP 182 1D	10	i ! ! !				1		
LDC RAD. TYPE		PART QTY.	BIAS	1 1		 		; ;		8 8 8 8
CUM.DOSE(RADS):	0			₩	-	10K	•	16K		20K
PARAMETERS	MEAN	SO	MEAN	SD	MEAN	SD	MEAN	SD	MEAN	SD
VIL(5) V	2.425	0.05	1.95	.058	1.675	960.	0.35	0.7	0.00	•
VIH(5) V	2.50	0.00	2,025	0.05	1.775	960.	.375	_	0	0.0
VIL-CS(5)* V	2.4		- 8.		<u>_</u>		+0.R.		+0.R	
VIL-MWR(5)* V	2.4		1.7		1.3		+0.R		D.R.	
VIL-D1(5)* V	2.8		2.1		4.8		+0 -		+0 R	
VIH-CS(5)* V	2.3		1.7		t.		40+		4	
PARAMETERS	CONT.	8	REC.	1642.	•		•			
REMARKS: CONT.	FROM RE	C. 164	ŝ	MEANS	VDD=5V	*	MEAN=WORST-CASE (NOT AVE	SVJ-13	E (NOT	(5/V
)	•			7	2	

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REMARKS: CONT. FROM REC. 1642.

MEAN = WORST-CASE VALUE (NOT AVERAGE).

GENERIC PARI NUMBER		LONG TON		ב ב	ECHNOLUGY		¥	EF.NO.	REF.NO. RECORD
1821	102	1024X1 TT RAM	AM	CMD	CMDS+SOS	; ; ; ;	16	94	1642
MANUFACTURER	PAR	PART NUMBER		SPEC	SPECIFICATION	NOIL	٥	DATA SOURCE	JRCE
RCA	CDP	CDP 18210	1 1 1 1 1 1		; ; ; ;	: 1 1 1 1 1	! !	1	
LDC RAD. TYPE	PART OTY.	Y. BIAS	 	1 1	! ! ! !	; 1 5 1		1 1 1 1	1 1 1 1 1
CUM.DOSE(RADS):	0		*	•	*	_	10K		5
PARAMETERS	MEAN SD	MEAN	SD	MEAN	S	MEAN	So	MEAN	SD
VIH-MWR(5)* V	2.3	1.9	 	1.5	 	1.3	1 3 1 6 1	+0.R	; ; ;
1H-DI(5)* V	5.6	2.3		2.0		+.8		+0.R.	
AA(5)* US	. 26	. 26		. 26		. 26		+ 0 8	
	. 17	. 17		. 17		. 17		+0.R	
TWW(5)* US	.05	90.		.07		60		+0+ R	
35(5)* US	ō	.02		.03		.04		+0+	
METERS	CONT. ON	Ö) 			
	FROM RFC 1641	1641. *	MEAN =	WORST-	-CASE	WORST-CASE VALUE (NOT AVERAGE)	VOT AV	FRAGE)	

GENERIC PART NUMBER	FUNCTION	TECHNOLOGY	REF.NO.
1821	1024X1-BIT RAM	CMOS-SOS	94 1643
MANUFACTURER	PART NUMBER	SPECIFICATION DATA SOURCE	DATA SOURCE
RCA	CDP 1821D		
LDC RAD, TYPE PART QTY. BIAS	RT QTV. BIÀS	BIÀS	

CUM.DOSE(RADS):	. (sa	0			4		8K	-	1 0K	*-	12K
PARAMETERS		MEAN	SD	MEAN SD	WEAN SD	MEAN	EAN SD	MEAN SD	1	MEAN SD	SD
	1	1	11111	1 1 1 1 1	1 1 1 1	1	1 1 1	1	1 1 1	1 1 1	1 1 1
	ns	90.		90.		80		80.		+0.R.	
	ns	.04		.05		.07		80.		+0.R	
TAS(5)*	ns	.04		.04		.05		.05		+0.R.	
PARAMETERS		CONT.	8	REC. 1644	1644.						

RECORD

REF.NO.

TECHNOLOGY

1024X1-BIT RAM

FUNCT ION

GENERIC PART NUMBER

1821

	MANUFACTURER	PART	PART NUMBER		SPEC	SPECIFICATION	ION	DATA	TA SOURCE	CE
	RCA	CDP 1821D	21D	2	! !	 	 		 	; ; ;
	LDC RAD. TYPE	E PART OTY.	BIAS							
	14.		1 1 1 1 1	i i i i	2 6 6 1 6 7	}. 1 1 1 1	 	; ; ; ; ;	! ! ! !	
	CUM.DOSE(RADS):	0	₽ Yot	¥	2	20K	2	25K	63	30K
	PARAMETERS	S	MEAN	SD	MEAN	SD	MEAN	SO		SO
	IDP(5)* MA	(C)	(P) (I		+38	(65	1	£+	t. 1 1 1
	*(S	р Ф	p 0		- E-		<u> </u>		- 13	
	* (2)	0	96+		+100		+120		+140	
	100L(5)* MA 100H(5)* MA	- - - -	4 4		+ 12		+ +		+ 9+	
	METE	CONT. ON FROM REC. 1643	REC.	1645. MEAN =	WORST-	CASE V	WORST-CASE VALUE (NOT	OT AVER	AVERAGE).	
*	**************************************	**************************************	**************************************	* *	******	**************************************	* * *	* * * * * XEF	* .	*******
	1821	1024X1-BIT	1-BIT RAM	1	CMDS-S	CMDS-SOS	 	94	! :	1645
	MANUFACTURER	PART	PART NUMBER		SPEC	SPECIFICATION	ION	DATA	ra source	G.
	RCA	CDP 1821D	210	i ! !	!	 	 	<u> </u>		1 1 1
	LDC RAD, TYPE	E PART QTY.	BIAS	1			·) 1 1
							·] -
	CUM. DOSE(RADS):	0	10K	¥	8	20K	7	25K	es	30K
	PARAMETERS	MEAN SD	MEAN	as	MEAN	SD	MEAN	SD	MEAN	SD
	VIL(10) V	3 0	3.58	0.10	2.80	0.08	0.65	1.30	0.0	0.0
	-08(N.	3.5		2.5		3FAIL		4FAIL	
	~ _	0. 6. 0. 0.	2, 4 80 —		ტ. ტ. ტ.		3FAIL 3FAIL		4FAIL 4FAIL	
	VIH-CS(10)* V	CONT. ON	•	646	2.5		3FAIL		4FAIL	
	REMARKS: CONT.	REC.	Ŭ	MEANS	10) MEANS VDD=10V.	* .vo	WEAN=W	WEAN=WORST-CASE(NOT	SE(NOT	AVG)

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OF	POOR	QUALITY

											*************					PA QU	GE I	5 Y			
1646	CE		1 1 1 1		30K	SD					AVG) ******	RECORD	1647	CE	<i>t</i> 1 1 1			30K	SD		
94	DATA SOURCE		 	·	6		4FAIL	4FAIL	3FAIL	3FAIL	* MEAN=WORST-CASE(NDT AVG)		94	DATA SOURCE	! 			6 0	MEAN	4FAIL 1FAIL 4FAIL	82
6	Δ.		; ; ;		25K	SD					#ORST-	<u>~</u>	6	۵	! ! ! !			25K	SD		
	NOI					MEAN	3FAIL	3FAIL	. 18	8 8	MEAN=1	٠	 	NOI	; 		, e		t	90.0.	0.
CMOS-SOS	SPECIFICATION		1		20K	SD					× ***	TECHNOLOGY	CMOS-SOS	SPECIFICATION	 			20K	SD	i i	
CMOS	SPEC] 		N		2.5	3.4 4FA11	17	8.5	> *	TECH	CMOS	SPEC	; 1 [MEAN	9 9 8 8 8	05
Σ		 	1		10K	SD					. 1647. (10) MEANS *******				 			†OK	SD		
I-BIT RAM	JUMBER	10	BIAS		-	MEAN	2.9	4 - C	. +2		· · · · *	NO	-BIT RAM	PART NUMBER	210	BIAS			MEAN	,	រ. ជ
1024X1-BIT	PART NUMBER	CDP 182 1D	RT OTY.		~	S		· · · · · · · · · · · · · · · · · · ·			FEC. 1645.	FUNCTION	1024X1-BIT	PART	CDP 182 1D	PART QTY.			S		
 		1 ************************************	A I		0	MEAN		5.0	. 1	ġ.	CONT. FROM RE	NUMBER	 		1 			0		90.00	ក់ ភ្ន
 	RER	 	D. TYPE	 	RADS):	S	^* (0	> <u>v</u>	ns N	Sn	*	ART NU	[[[RER	. - - 	D. TYPE		RADS):	ιo	s n n s n	¥ ¥
1821	MANUFACTURER	RCA	LDC RAD.		CUM. DOSE (RADS)	PARAMETERS	VIH-MWR(10)*V	VIH-DI(10)* TAA(10)*	*(0)	TWW(10)* US	PARAMETERS REMARKS: CONT.	GENERIC PART	1821	MANUFACTURER	RCA	LDC RAD		CUM. DOSE (RADS)	PARAMETERS	TCS(10)* TAS(10)*	TDP(10)*

REF. NO	*****	96
TECHNOLOGY		CMUS-SOS
FUNCTION	* \$ 2 5 5 5 7 7 7 7 8 5 5 5 7 7 7 7 8 5 5 5 7 7 7 7	1024X1-RIT PAM
NERIC PART NUMBER FUNCTION		+0

FACTURER PART NUMBER SPECIFICATION DATA SOURC CDP 1821D	GENERIC PART NUMBER FUNCTION	PART	NUMB	ER	FUNCTI	NO			REF.NO. RECORD
CDP 1821D	1821		1		1024X1	-BIT RAM	CM05-S0S	94	1648
	MANUFACT	TURER			PART N	- I	SPECIFICATION	DATA SO	URCE
	201	044	1405	PART	OTV.	BIAS			

CUM. DOSE (RADS):		0	•	₹ Y	••	20 K	•	25K		30K
PARAMETERS			MEAN SD	MEAN SD	MEAN SD	MEAN SD	MEAN SD	MEAN SD	MEAN SD	MEAN SD
10ZH(10)* UA	0	0	50	50	175		200		290	
IDDL(10)* M		7	(P)		12		18		105	
IDDH(10)* MA	.	0	4		68		105		1 00	
END OF PARAMETERS										

MEAN =WORST-CASE VALUE. (10) MEANS VDD=10V. REMARKS: CONT. FROM REC. 1647.

GENERIC PART NUMBER	ABER	FUNCTION	z	. I	TECH	TECHNOLOGY		RE	REF.NO. RECORD	RECORD
1824	 	RAM	i i i i	 	CMDS			4		1480
MANUFACTURER		PART NUMBER	MBER		SPEC	SPECIFICATION	NOI	DA	DATA SOURCE	SCE
HUGHES	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	HMMP 1824D	4D	 	1	; ; ; ; ;		O	MOTOROLA	! ! ! !
LDC RAD. TYPE		PART OTY.	BIAS)		1	 		, 1 1	
8031 CD-60		4	V+=13.5V	57					 	
CUM.DOSE(RADS):	Ü	0		¥	푽	*		5K	. á	* ! * !
PARAMETERS	MEAN	SD	MEAN	SO	MEAN	SD	MEAN	SD	MEAN	SD
VTN(AVG.) V	1.963	.0510	1.692	.0786	1.687	.0381	1,526		1.703	.0088
101.014	1	E t	.2610		1	•	.4032	.0218	.3213	1
LEAKAGE NA	ស	0	ໝ	0			2456	2456 1320		
AVG TRI-STATE LEAKAGE NA REMARKS: *AFTER	5 7-0AY	5 O 7-DAY ANNEAL.	***	O ITA OF	S O **DATA OF 1 DEVICE.	E. IRR	2230 1193 IRRAD. AFTER 15-DAY ANNEAL.	2230 1193 . AFTER 15-	DAY AN	VEAL.

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GENERIC PART NUMBER		FUNCTION		TECH	TECHNOLOGY		REF.NO.	REF.NO. RECORD
1824	32	32X8 RAM	(CMDS			35	1630
MANUFACTURER	A d	PART NUMBER	æ	SPEC	SPECIFICATION	_	DATA SO	SOURCE
RCA	CDP	CDP 1824D	1. 	COM	COMMERCIAL		JPL	
	PE PART QTY.	TY. BIAS	S)				, , , , , , , , , , , , , , , , , , ,	- -
010 00-60	(5	Į Q I	VDD=5V AND VDD=10V	VDD=10V	i i		 	r
CUM. DOSE (RADS):	0 ::	1	¥		Ж	8		10K
PARAMETERS	! ! _	SD MEAN	OS N	MEAN	SD ME	MEAN	SD MEAN	SD
VIL(5) * V	2.27	2	13	1.86		FAIL	FAI	
VIL(10) * V	4.41	4	4.35	4.21	-	AIL	FAIL	۔
VIH(5) * V	2.28	Ø	14	1.87	_	FAIL	FAI	_
VIH(10) * V	5.52	ល	.43	5.35		AIL	FAI	_
IDD(5) * UA	.021	Ÿ	890	25.7		925	96	7
*	3.31	e	3.24	34.7	U)	0696	999	Q
PARAMETERS		ON REC.	1631					

GENERIC PART NUMBER	MBER	FUNCTION	NO		TECH	TECHNOLOGY		REF.NO. RECORD	RECOR
1824	!	32X8 RAM	AM		!		; 1 1 1 1	36	1631
MANUFACTURER		PART NUMBER	UMBER		SPEC	SPECIFICATION		DATA SOURCE	JRCE
RCA	# # !	CDP 1824D	4D	 	; i i f	 			
LDC RAD. TYPE PART QTY.	E PAR	T 0TY.	BIAS	 	1	; ; ; ; ;	 	*	
CUM. DOSE (RADS):		0		¥		9K	Ş	!	†SK
PARAMETERS	MEAN	SD	MEAN	SD	MESS	SD ME	MEAN SD	MEAN	SO
FUNCTIONALITY VDD=10V	6PASS	! ! ! !	6PASS 6PASS	 	2FAIL	. 70 70	GFAIL SFAIL	GFAIL GFAIL	

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C PART	
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TRACT NOME		TION	TECHNOLOGY	REF.NO. RECORD
	ROM		CMOS	4-5 1460
MANUFACTURER	PART	PART NUMBER	SPECIFICATION	
HUGHES	HMMP	HMMP1832CD		MOTORNIA
LDC RAD. TYPE 8036 C0-60	PART QTY.	BIAS 		
CUM.DOSE(RADS):	0	50K		
METERS	MEAN SD	MEAN SD	MEAN SD MEAN	SD MFAN CD
IDD V 1	1.912 .1339 0.118 .1406 0.0 0.0	—		

REMARKS:

	FUNCTION	TECHNIOI OCK	
1832	1000	1000000	
	E OX	CMOS	4-4 1470
MANUFACTURER	PART NUMBER	Specialcation	
HUGHES	HWMD 182200	TITLE TOWN	DATA SGURCE
			MOTOROLA
LDC RAD. TYPE PART	PART OTY. BIAS		
8035 CD-60	4 5V		1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
CUM.DOSE(RADS): 0	J.C.		
PARAMETERS MEAN	SD MEAN SD		
> YN	.0468	MEAN SO MEAN SD	MEAN SD

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REMARKS:

GENERI	GENERIC PART NUMBER	MBER	FUNCTION	Ň		TEC	TECHNOLOGY		~	EF.NO.	REF.NO. RECORD
1832			512X8 ROM	ROM	; 1 ; ; ;	CMOS	! ! ! !		. 8	803	1530
M.ANUFA	MANUFACTURER		PART NUMBER	UMBER		SPE	SPECIFICATION	NOI	20	DATA SOURCE	JRCE
RCA			CDPR512D	2D	 	COM	COMMERCIAL	 	1	GSFC PPM	
LDC	RAD. TYPE PART QTY.	E PART	0TY.	BIAS		•				•	
77 19	09-00			+5V, +10V	100		1 4 4 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	• • • • • • • • • • • • • • • • • • •			1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
CUM. DO	CUM. DOSE(RADS):	0			¥		Ž Ž				
PARAMETERS	TERS	MEAN	S	MEAN	S	MEAN	20	MEAN	SD	MEAN	So
FUNCTION 5V	FUNCTION 5V FUNCTION 10V	SPASS		3FAIL 5PASS	i ! ! !	SFAIL SFAIL	- - - - 	 	1 1 1 1	1 1 1	!

REMARKS:

GENERIC PART NUMBER	NUMBER	FUNCTION	NOI		TEC	TECHNOLOGY		æ	REF.NO. RECORD	RECOR
1832	! 	ROM	! ! !	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	CMOS			T.	!	1720
MANUFACTURER		PART	PART NUMBER		SPE	SPECIFICATION	ION	Q	DATA SOURCE	RCE
HUGHES	1 1 1 1 1 1	HWWD 1	HMMP 1832CD-015	5	1		! ! !	} &	MOTOROLA	
LDC RAD. TYPE		PART OTY.	80							
. .	(C)	; ; ; ;	V+=5V,	PINS:	1-11.	13-17,2	V+=5V, PINS: 1-11,13-17,20,21,23 TO 5V VIA 47K	TO 5V	VIA 4	¥
CUM.DOSE(RADS):): (9	0	ļ	¥	c,	3K*		SK SK		
PARAMETERS	MEAN	gg.	MEAN	SD	MEAN	SD	MEAN	SD	MEAN	SD
V VTN V IDD UAD UAD V V VIN V VIN V VIN V VIN V VIN V VIN V V V V		0133 .0231		.8403 .0100 .0133 .0231	.0133	.9077 .0100 .0133 .0231 .8766 .0173	.0133	0082		i: 1. 1.

GENERIC PART NUMBER	FUNCTION	NO		TEC	TECHNOLOGY		2	F. NO.	REF.NO. RECORD
1840	16 CHA	16 CHANNEL MUX.	Xn	CMOS	1	 	24	24-46	1210
MANUFACTURER	PART NUMBER	IUMBER		SPE	SPECIFICATION	ION	0	DATA SOURCE	JRCE
HARRIS	HI 1840		i 	COM	COMMERCIAL	# 	28	ROCKWELL	! ! ! !
RAD. TYPE	PART OTY.	BIAS							
7841 CD-60	4	V+= 15	V+=155, V-=-15V, IN(1-8)=A0=A1=VREF=5V, REST	15V, II	V(1-8)=	A0=A1=	VREF=5V	, RES	CND
CUM. DOSE (RADS):	0		40 K		20K		30K		
PARAMETERS MEAN	SD	MEAN	OS.	MEAN	SD	MEAN	SD	MEAN	as s
D ICC UA	f 	746.7	746.7 88.29		473.5	5000.	657.5	i ! !	! ! !
D IS/0(P19)NA		0.417	0.787	2.873	3.700	4300	539.2 6 475		
D IS/0(P22)NA		4700.	5500		10700	161E3	00920		
D ON/R(P21)OH		8.175	0.330	18.30		28.07	3.818		
D ON/R(P22)0H		2.975	0.512	5.350		6.225	2.246		
REMARKS:									

GENERIC	GENERIC PART NUMBER	#3ER	FUNCTION	NO.		TEC	TECHNOLOGY		R	F.NO.	REF.NO. RECORD
1840	 	, , , , , , , , , , , , , , , , , , ,	ANALOG	ANALOG MULTIPLEXER	PLEXER	CMDS	 	† 	10	1003	5020
MANUFACTURER	URER		PART NUMBER	UMBER		SPE	SPECIFICATION	NOI	Ď	DATA SOURCE	JRCE
HARRIS	! ! ! ! !	 	HI 1-1840-2	40-2	1 1. T 1 1 1	1] 		14	TRW	! ! ! ! !
	RAD. TYPE		PART OTY.	BIAS							
7945	09-02	; -	10	ALL I	ALL INPUTS AT 5V, FUNCTIONAL TEST CIRCUIT, VDD=15V	T 5V, I	FUNCTIO	NAL TE	ST CIRC	ourt.	/00=15V
CUM.DOSE(RADS):	(RADS):		•	1	Ā		30K	-	60K		
PARAMETERS	RS	MEAN	S	MEAN	S	MEAN	S	MEAN	So	MEAN	SO
VAH NOM	> V	3.811	3.811 0.126	3.738	3.738 0.119	_	4.170 0.196	4.977	4:977 0.313	i ! !	
RON, 16	OHWS	496.1	28.60	526.6	526.6 31.00		564.9 28.16	611.3	611.3 20.86		
IDOFF 1	Y.	0.018	0.018 0.067	0.118	0.071		0.380 0.106	0.793	0.176		
IDOFF 16	Z Z	0.005	0.002 0.079	0.101	0.101 0.095	0.365	0.365 0.128	0.7.0	0.770 0.169		

GENERIC	SENERIC PART NUMBER	BER	FUNCTION	NO		TECH	TECHNOLOGY		_	REF.NO.	REF.NO. RECORD
198	; ; ; ; ; ;	! !	SAMPLE &	SAMPLE & HOLD		BIPOLAR	BIPOLAR	; 	 	22	1850
MANUFACTURER	TURER		PART NUMBER	UMBER		SPEC	SPECIFICATION	ION		DATA SOURCE	URCE
NS.	1 	† . † . 	LF 198A	; 	 	1980	NSC L	1980 NSC LINEAR CAT		MAGNAVOX	×
CDC	RAD. TYPE PART QTY.	PAR	T QTY.	BIAS	ı						1 1 1
UNK.	09-00	•	12	V+=+1	SVDC; V-	V+=+15VDC;V~=-15VDC;PIN7=GND	: PIN7=	GND	1 6 1	 	
CUM. DOS	CUM.DOSE(RADS):		0		5K			1		 	;
PARAMETERS	ERS	MEAN	SD	MEAN	QS N	MEAN	1	MEAN	SD	MEAN	SD
DIIN+ PIN3 DVOS D-ICC	DIIN+ PIN3 NA DVOS MV MA	L		665 034 0.059 0.062	665224 034 2.194 0.059 0.024 0.062 0.021		 		4.5		,

REMARKS:

GENERIC PART NUMBER	ABER	FUNCTION	NO		TEC	rechnology		2	REF.NO.	RECORD
200	 	DUALS	DUAL SPST SWITCH	НОТ1	CMDS	10		1 70	25-10	2040
MANUFACTURER		PART	PART NUMBER		SPEC	SPECIFICATION	NOIL	۵	DATA SOURCE	IRCE
HARRIS	; 	HI2-200-2	20-2	! ! ! !	: !		1 	₹ 	AEROJET	; *
LDC RAD. TYPE		PART QTY.	BIAS							•
7733M C0-60	្រ	} . ! ! !	UNK.	; ; ;	; ; ; ;	! !	[- - 	; ; ; ;	 	
CUM.DOSE(RADS):	Ö	· ·	Si.	2.5K		Ť,	4	40K		
PARAMETERS	MEAN	SD	MEAN	SD	MEAN	SD	MEAN	SD	MEAN	SD
FUNCTIONALITY	SPASS	 	SPASS	 	SPASS		SFAIL	 		
IS(0FF) **	SPASS		SPASS		SPASS		5PASS			
(D(OFF)	5PASS		SPASS		5PASS		SPASS			
1D(ON)	5PASS		APASS		SFAIL		SPASS			
<u>+</u>	SPASS		SPASS		3FAIL		SPASS			
	SPASS		SPASS		3FAIL		SPASS			
CAMPANA GOL			100		1					

GENERI	GENERIC PART NUMBER	NUMBER	FUNCTION	N.		TECH	TECHNOLOGY		REF. NO.	REF.NO. RECORD
201		 	ANALOG SWITCH	NALOG SWITCH	; ; ; ;	CMOS	; ! !	 5 1 4 5 6 7	101-1	1950
MANUFACTURER	CTURER	, J	PART NUMBER	JMBER	. " - •	SPEC	SPECIFICATION	NO	DATA SOURCE	URCE
HARRIS			HI-201		! ! ! !	1	! !	1 1 1 1 1	LITTON	1 5 6 6 1 1
רםכ	RAD. T	RAD. TYPE PART GTY.	r oty.	BIAS						
CNK.	09-00	S.		Λ 5=+ Λ	1 1 1 1 1	{ } } { 	: { 	1 1 1 1 1	# 1 1 # # 1 !	} { { { { { { { { { { { { { { { { { { {
CUM.DO	CUM.DOSE(RADS):		0		4 7		8			
PARAMETERS	TERS	MEAN	MEAN SD	MEAN	SD	MEAN	SO	MEANS	SD MEAN	SD
LEAK/I LEAK/O LEAK/I LEAK/O	LEAK/IN+10 PA LEAK/IN+10 PA LEAK/IN-10 PA LEAK/O -10 PA			38.00 34.00 127.0	38.00 39.00 34.00 35.00 127.0 109.0	23.00 24.00 16.00 15.00 23.00 19.00 17.00 14.00	24.00 15.00 14.00			1 } ! !

REMARKS:

GENERIC PART NUMBER		FUNCTION		TECI	TECHNOLOGY	>		REF.ND, RECORD	RECORD
201	QUAE	QUAD SPST SWITCH	픙	CMDS	! ! !	; ; ; ; ; ;	!	25-11	2030
MANUFACTURER	PAR	PART NUMBER		SPE(SPECIFICATION	110N	_	DATA SOURCE	JRCE
HARRIS	HIT	HI 1-201-2	i ! !	; ; ;	} 	(!	AEROJET	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
LDC RAD. TYPE	PART QTY.	/. BIAS							
7730V CG-60	က်	UNK		; ; ; ;	\$! !	; ; ; ; ; ;	! ! !	; ; ; ;	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
CUM, DOSE (RADS):	0	2.5K	. **		SX	4	40K	,	130K
PARAMETERS	MEAN SD	! ! _ :	SD	MEAN	SD	MEAN	So	MEAN	SD
	5PASS	SPASS		5PASS	} ; ; ;	4FAIL	\$ 	4FAIL	!
IAMIC)*	SPASS	SPASS		SPASS		SPASS		SPASS	"
	PASS	SPASS		SFAIL		SFAIL		¥ *.	× .
10(0FF)	2500	SPASS		SFAIL		SFAIL		*	
	SPASS	SPASS		SFAIL		SFAIL		÷	
	SPASS	SPASS		SPASS		4PASS		4PASS	••
I- 54	PASS	SPASS		SPASS		4PASS		4PAS	10
REMARKS: *VI, THL, TLH PASS	TLH PASS	ALL DOSES **1		FAILED,	4 IMP	FAILED, 4 IMPROVED (OF 4,	F 4,	SOME PASSED)	(SSED).

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	CENTRAL PROPERTY	NOIL TONOL	2	i i	L CH	TECHNOLOGY		ξ.	F. NO.	REF.NO. RECORD
2102		RAM			NMOS		 	2	701-4	2010
MANUFACTURER		PART N	PART NUMBER		SPEC	SPECIFICATION	NOI	DA	DATA SOURCE	IRCE
NATIONAL	1 [] 	MM2 102-2MD	2-2MD	i ; ; ; t t	! ! !	 - - 	1 	AF	AFWL-TR-79-	AFWL-TR-79-118
LDC RAD. TYPE		PART OTY.	BIAS					i		
UNK. CD-60		10	V+=5V,	5 DEV	ICES HA	D ALL	V+=5V, 5 DEVICES HAD ALL INPUTS TO GND, 5 AT V+	TO GND	ND, 5 AT V	*
CUM. DOSE(RADS):	s):	0		Š.						i
PARAMETERS	MEAN	OS I	MEAN	SD	MEAN	S	MEAN	WEAN SD	MEAN	SD
ICC4 M	MA 27.00	90	26.80	 	! 	} 	i i i i	1 1 1 1		
		Q	1.430							
	S 354.0	0	350.0							

REMARKS:

GENERIC PART NUMBER	IMBER	FUNCTION	Z		TECH	TECHNOLOGY		~	EF.NO.	REF.NO. RECORD	
215		PHASE-LOC	PHASE-LOCKED LOOP	-000 -000	BIPOLAR	BIPOLAR	; [[] []	!	1-147	1880	
MANUFACTURER		PART NUMBER	UMBER		SPEC	SPECIFICATION	NOI	۵	DATA SOURCE	JRCE	
EXAR INTEGRATED SYST	SYST	XR215	; ; ; ; ;	 	; ! !	• • • • •	 	; ;	UPL	! ! ! !	
LDC RAD. TYPE		PART OTY.	BIAS								
7816 2.5MEV EL		6	VCC=5V, VEE=-5V	VEE	-5V.	! !		 	! ! !	 	
CUM.DOSE(RADS):		•	·ਲ ·	30K	,	75K	<u> </u>	150K	ŭ	600K	
PARAMETERS	MEAN	SO	MEAN	SD	MEAN	SD	MEAN	SD	MEAN	SD	
ICC(MAX) * MA IEE(MAX) * MA	12.16	[] 	12.35	! ! !	12.22	! ! t. !	12.27	t ! ! !	11.88) 	•
CAPIUKE KANGE LOW*(MIN)KHZ CADTHDE DANCE	383		384		384		382		382	~	
HIGH*(MAX)KHZ	415 CONT.	NO	413 REC. 1881	1881	4 12		412		411		
REMARKS: * MEA	N = WOR	ST-CAS	MEAN = WORST-CASE VALUE (NOT AVERAGE)	TON)	AVERAGE						

1881 RECORD

RTT.NO. 1-147

TECHNOLOGY BIPOLAR

PHASE-LOCKED LOOP

FUNCTION

GENERIC PART NUMBER

DATA SOURCE

SPECIFICATION

PART NUMBER

XR215

EXAR INTEGRATED SYST

MANUFACTURER

BIAS

RAD. TYPE PART QTY.

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ļ	SD				
600K	MEAN SD	356	439	4.76	
	. !				AVG.).
150K	MEAN SD	355	444	4.79	(NOT
75K	,				ST-CASE
	MEAN SD	355	446	4.80	/EAN≃ <u>wo</u> g
30K	SD				1882.
30K	MEAN SD	354	449	4.80	REC. 1882.
. !	SD				RECOR
0	MEAN SD	353	455	4.84	CONT. ED FROM
CUM.DOSE(RADS):	PARAMETERS	LOCK-IN RANGE LOW*(MIN)KHZ	LOCK-IN RANGE HIGH*(MAX)KHZ	FREE RUN FREO *(MEAN) MHZ	PARAMETERS CONT: ON REC. 1882. REMARKS: CONTINUED FROM RECORD 1880. * MEAN=WORST-CASE (NOT AVG.).

REF.NO.	1-147 1882	DATA SOURCE	; 4 ; 1 ; 1 ; 1 ; 1
TECHNOLOGY	BIPOLAR	SPECIFICATION	BIAS
FUNCTION	PHASE-LOCKED LOOP	PART NUMBER	r oty. BIAS
GENERIC PART NUMBER	215	MANUFACTURER	LDC RAD. TYPE PART QTV. BIAS

CUM. DOSE(RADS):				75K	1 5	150K	9	800K
PARAMETERS	MEAN SD		MEAN SD	SD	MEAN SD	SD	MEAN SD	SD
X-JITTER			 	!		 	; ; ; ; ; ; ; ; ; ; ; ; ; ; ; ;	i ; !
(MAX) NS	183	178	184		159		169	
(WAY) NO	0,0	C	1		1		0	
IN-OUT JITTER	200	730	067		/97		202	
(MAX) NS	476	522	534		645		513	

END OF PARAMETERS. REMARKS: CONTINUED FROM RECORD 1881. PAGE A-143

GENERIC PART NUMBER		FUNCTION	NO		TECH	TECHNOLOGY		RE	REF.NO.	_
2420	 	SAMPLE	SAMPLE AND HOLD	ירם	ВІРС	BIPOLAR	 	! ↓ !	1-33	1960
MANUFACTURER	_ 	PART NUMBER	UMBER	-	SPEC	SPECIFICATION	NOI	DA	DATA SOURCE	IRCE
HARRIS	- -	HA2420						JPL	į.	
α.		PART QTV.	BIAS							
7806 C0-60	i		S S	 	; ; ; ; ;	} ; ; 1 !	, 1 5 6 6	 		
CUM. DOSE (RADS):	0			50K		75K	+	150K		300K
PARAMETERS	MEAN	SD	MEAN	SD	MEAN	SD	MEAN	SD	MEAN	S
DVOS MV DIOS NA DIB NA +GAIN DB -GAIN DB	77.2.		1.04 31. 72.7 71.2	. 1925 . 3236 3.959 1.242	. 25 . 96 . 40. 70.9 69.9	. 25 . 2853 . 96 . 1436 40 . 2 . 777 70 . 9 1 . 113 69 . 9 2 . 823	438 1.38 65. 68.1 64.5	. 3793 . 5559 3.209 1.789	1.75 1.78 91.7 64.6 61.8	3 . 4680 1 . 004 7 . 740 1 . 209 1 . 789

REMARKS:

GENERI	GENERIC PART NUMBER	WBER	FUNCTION	NO		TEC	TECHNOLOGY		33	F.NO.	REF.NO. RECORD
24250		! ! !	OP-AMP	! ! ! !	t 1 1 1 1	BIP	BIFOLAR	; ! ! ! ! !	24	24-4	1930
MANUFA	MANUFACTURER		PART NUMBER	UMBER		SPE	SPECIFICATION	ION	DA	DATA SOURCE	IRCE
NATIONAL	AL.	i 	LH24250	0	1 1 1 1 1	COM	COMMERCIAL	! ! ! ! ! !	2	ROCKWELL	
rpc	RAD. TYPE		PART OTY.	BIAS							
8027	09-00	 	ດ	V+=15V	. V-=-	15V. N	I-NINO	V+=15V, V-=-15V, NONINV-INPUT=5V, INV-INPUT=OUTPUT	. INV-	INPUT	OUTPUT
CUM. DO	CUM, DOSE (RADS):		0	-	10K	••	30K	,	50K		1
PARAMETERS	TERS	MEN	S	MEAN	SD	MEAN SD	SO	MEAN	SD	MEAN	MEAN SD
D V0S D 10S	> d d			2. 112 2.351 -3.79 0.709	2. 112 2.351 -3.79 0.709		3.114 2.318 613 1.342	4.822 8.381	4.822 .731 8.381 3.045 97 00 16 29		
D IIB	Ϋ́			28.05	4.052		80.49	97.00 16.29	16.29		

REMARKS:

GENERIC PART NUMBER		FUNCTION	Z		TECH	TECHNOLOGY		8	_	RECORD
24250		OP-AMP		! ! ! !	BIP	BIPOLAR] } 	24	24-3	1990
MANUFACTURER		PART NUMBER	JMBER		SPE	SPECIFICATION	NOI	DA	DATA SOURCE	SCE.
NATIONAL	! ! !	LH24250		<u>{</u> 	COM	COMMERCIAL	; 	2	ROCKWELL	! ! ! !
_	PART	OTY.	BIAS							
7902 C0-60			V+=15V,	. V==-	15V. NC	NINC-I	V+=15V, V-=-15V, NONINV-INPUT=5V, INV-INPUT=OUTPUT	IN.	INPUT	OUTPUT
CUM.DOSE(RADS):	0			10K	1	30K	ري ا	SOK	¥	100K
FARAMETERS	MEAN	SD	MEAN		MEAN SD	SD	MEAN		MEAN	
D VOS MV D IOS NA D IIB NA			0.855 2.084 31.30	0.855 0.516 2.084 1.056 31.30 3.818		2.060 0.806 4.719 .200 79.55 to:25	5.505 8.429 139.0	5.505 1.110 8.429 6.334 139.0 18.53	5.833 31.09 186.1	5.833 2.800 31.09 30.03 186.1 42.67

REMARKS:

GENERIC PART NUMBER	PART N	UMBER	FUNCTION	NO		TECH	TECHNOLOGY		32	F.NO.	REF.NO. RECORD
244		 	256X4 RAM	RAM	- f 	CMDS		· · · · · · · · · · · · · · · · · · ·	 	1-143	1900
MANUFACTURER	TURER		PART NUMBER	UMBER		SPEC	SPECIFICATION	NOI.	O	DATA SOURCE	IRCE
SANDIA	1 	; ; ; ; ;	TCC244	! ! !	; ; ; ;	:	; 	 	JPL	1	! ! !
רסכ	RAD. TYPE		PART OTY.	BIAS							
: : : : : *	1.25MEVGAM	GAM	12	VDD=10V		! ! ! !	; ; ; ;	1 	; ; ! !	; ! ! !	
CUM.DOSE(RADS):	E(RADS)	••	0		30K	-	75K	∓	150K	300K**	* * *
PARAMETERS	ERS	MEAN	SD	MEAN	SD	MEAN	SD	MEAN	SD	MEAN	SD
ISS(MAX)** NA	** NA	9		100		1500	 	18000	i i . i	54000	
IDN(MAX)**	** MA	5.8	6 0	55.08		5.5		5.4		4	
IDP(MAX) **)** MA	3.5	2	3.5		၁ ဧ		2.9		2,6	
**(NIW)QQA	> **(3.8	80	8) (C)		4.9		8.4		<u>.</u>	
TAA(MAX)**	SN **(150		160		175		210		260	_
TAC(MAX) ** NS	SN **(105	ល្	110		120		140		185	
PARAMETERS	ETERS	MEAS	۵	100	F 000	1000	1	•	1		
KEMAKKS: "8024,8053,8106.	* *8024	, KCD8,			- ISSON	MEAN #WORK! - CASE (NO! AVG.). ***CON!. UN REC. 1901	DI AVC	* ' (' '	**CON!	20	.c. 1901

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PAGE A-145

REF.NO. RECORD 1-143 1901

TECHNOLOGY

FUNCTION 256X4 RAM

GENERIC PART NUMBER

DATA SOURCE

SPECIFICATION

PART NUMBER

MANUFACTURER

BIAS

RAD. TYPE PART QTY.

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CUM. DOSE (RADS):	•	600K						
PARAMETERS	MEAN SD	MEAN SD	!	MEAN SD	MEAN		MEAN SD	SD
ISS(MAX) ** NA	100	00006		 	† - - -	 	! ! ! !	! ! ! !
IDN(MAX) * * MA	8.0	4.2						
IDP(MAX) ** MA	3.5	2.2						
VDD(MIN)** V	9. 8.	11.8						
TAA(MAX)** NS	150	370						
TAC(MAX)** NS	105	270						

1900.
RECORD
FROM
COSES
9
CONTINUATION
REMARKS:

ਰ	ENERIC	GENERIC PART WUMBER	MBER	FUNCTION	N.C		TECH	TECHNOLOGY	ا	RE	REF.NO.	RECORD
iÀ	245			TRIPLE	TRIPLE LINE XMTR	MTR	BIPC	BIPOLAR		25	25-13	2080
Ē	MANUFACTURER	TURER		PART NUMBER	JMBER		SPEC	SPECIFICATION	NOI	DA	DATA SOURCE	IRCE
ìÌ	HARRIS		† 	HD245-2	2	 	! ! !]] [] 1		AE	AEROJET	! : ! !
3	LDC	RAD. TYPE		PART QTY.	BIAS							
, F	7623	09-00		S	UNK			 		i.		
ರ	UM. DOS	CUM. DOSE (RADS):			8.	2.5K		Š	4	40K	+30	130K *
آ ۾	PARAMETERS	ERS	MEAN	S	MEAN	SD	MEAN	SD	MEAN	SD	MEAN	SD
×	NO-TUC		SPASS		SPASS		5PASS	ľ	SPASS		5PAS	
ĭ	OUT-OF	ı	SPASS		SPASS		5PASS		SPASS		5PAS	
ĭ	CER		SPASS		SPASS		SPASS		SPASS		SPAS	
H	IIL		SPASS		SPASS		SPASS		SPASS		SPASS	
ĭ	္ဌ		SPASS		SPASS		SPASS		SPASS		SPAS	

REMARKS: *ALL PARAMETERS PASSED AT A FINAL CUMULATIVE DOSE OF 250K RADS.

GENERIC PART NUMBER	MBER	FUNCTION	NO		TECH	TECHNOLOGY	>		REF.NO. RECORD	RECORD
248	 	TRIPLE	TRIPLE LINE RCVR	CVR	BIP	BIPOLAR	! ! !	‡. ! !	25-14	2090
MANUFACTURER		PART NUMBER	UMBER		SPEC	SPECIFICATION	LION		DATA SOURCE	JRCE
HARRIS	 - - -	HD248-2	2		! !	 	: 	1	AEROJET	!
LDC RAD. TYPE		PART OTY.	BIAS							
09-00 (€) *	<u> </u>		CNK.	i. ! !	: : : : :	1 1 1 1	! ! ! !	!	! ! !	
CUM. DOSE (RADS):			તં - 	2.5K	•	Ş.		40K	130	130K **
PARAMETERS	MEAN	SO	MEAN	SO	MEAN	S	MEAN	S	MEAN	SD
HDA	SPASS	! !	SPASS	; ! !	SPASS	i i i	5PASS	!	SPAS	
VOL	SPASS		SPASS		SPASS		SPASS		SPAS	'n
VOS	5PASS		SPASS		SPASS		SPASS		SPAS	'n
ICC	SPASS		SPASS		SPASS		SPASS		SPAS	'n
IEE	SPASS		SPASS		SPASS		SPASS		5PASS	w

REMARKS: *7408, EHO88, 7328. **ALL PASSED AT FINAL CUM DOSE OF 250KRAD.

GENERIC PART NUMBER	FUNCTION	NO		TECH	TECHNOLOGY		æ	REF.NO. RECORD	RECORD
25LS22	8-BIT	8-BIT SHIFT REGISTR	EGISTR	ſ	BIPOLAR	; ! ! !	10	1054	5560
MAINUFACTURER	PART NUMBER	UMBER		SPE	SPECIFICATION	NOI	O	DATA SOURCE	RCE
АМД	AM25LS22	22	; ; ; ;	i ! !	† 	; 1 ! !	TRW	TRW	i - - - -
LDC RAD. TYPE P	PART OTY.	BIAS							
8024D CD-60 + N*	₽	VCC=+5V		! ! ! !	! ! ! !	! ! ! !	f 	; f ; ;	1 1 1 1 1
CUM. DOSE (RADS):	0	*N+200K	¥						
PARAMETERS MEAN	1	MEAN	SD	MEAN	SD	MEAN	SD	MEAN	SD
Σ	.4 14.53		15.26	 	 	1 1 1 1	! ! !	!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!	
VOL(DY5) MV 341	341.0 14.70	• • •	15.79						
ÈÈ	0 14.3	331.0	15.77						
`₩	.1 32.31	• • •	15.59						
¥.	.7 15.23		15.59						
CONT. REC. 5561									
REMARKS: DVO, 1, 2, 3, 4, 5, 6, 7 = PINS 13, 7, 14, 6, 15, 5, 16, 4, RESPECTIVELY. QO=PIN 12.	4.5.6.7 =	PINS 1	3,7,14	6, 15,	5, 16, 4.	RESPEC	TIVELY	00=P	IN 12

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GENERIC PART NUMBER	MBER	FUNCTION	NO		TEC	TECHNOLOGY		REF	NO.	REF.NO. RECORD
251.522		8-BIT SHIF	8-BIT SHIFT REGISTR	REGISTR		BIPOLAR		1054	054	5561
MANUFACTURER		PART NUMBER	UMBER		SPE	SPECIFICATION	NOI	DATA	DATA SOURCE	RCE
AMD). ··· ! !	AM25LS22	22	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	1 3 1 1		1			1
LDC RAD. TYPE PART QTY.	PART	, OTY.	BIAS							
CO-60 + N*	* 7	 - - -	; f f i j	 	 	 	i 		!	!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!
CUM.DOSE(RADS):			*N+200K	ğ			,			
PARAMETERS	MEAN	SD	MEAN	SO	MEAN	SO	MEAN	SD	MEAN	SD
VOL(DY2) MV VOL(DYO) MV VOL(QO) MV	337.7 335.5 354.2	337.7 15.20 335.5 13.73 354.2 14.76	337.9 16.53 342.4 13.67 354.4 16.35	16.53 13.67 16.35	! ! !	! ! !	! ! !	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	1	

REMARKS: CONTINUATION OF RECORD 5560. *NEUTRON RAD. = 6.6E11 N/SQCM.

ER	GENERIC PART NUMBER	FUNCTION	TECHNOLOGY	REF.NO. RECORD
FR PART NUMBER SPECIFICATION DATA SOURCE AM25LS22 TRW TYPE PART QTY. BIAS 60 + N* 5 VCC=+5V. ADS): 0 *N+100K *N+300K *N+500K MEAN SD MEAN SD MEAN SD MEAN NA 121.8 11.48 112.2 12.93 112.4 13.05 10:6 11.19 NA 7960 0114 7940 0089 7780 0084 7760 0089	251.522	8-BIT SER/PAR REGIS	TTL	1073 5750
RAD. TYPE PART QTY. BIAS CO-60 + N* 5 VCC=+5V. OUSE(RADS): 0 *N+100K *N+300K *N+500K MEAN SD MEAN SD MEAN SD MEAN SD MEAN NA 121.8 11.48 112.2 12.93 112.4 13.05 107.6 11.19 NA 7760 .0014 .7940 .0089 .7780 .0084 .7760 .0089	MANUFACTURER	PART NUMBER	SPECIFICATION	DATA SOURCE
60 + N* 5 VCC=+5V. ADS): 0 *N+100K *N+300K *N+500K MEAN SD MEAN SD MEAN SD MEAN NA 121.8 11.48 112.2 12.93 112.4 13.05 10.6 11.19 NA 7960 0114 7940 0089 7780 0084 7760 0089	AMD	AM25LS22		TRW
ADS): 0 *N+100K *N+300K *N+500K MEAN SD MEAN SD MEAN SD MEAN NA 121.8 11.48 112.2 12.93 112.4 13.05 10.16 11.19 NA 7360 .0114 .7940 .0089 .7780 .0084 .7760 .0089	RAD. TYPE	. –		
MEAN SD MEAN SD MEAN SD MEAN SD MEAN NA 121.8 11.48 112.2 12.93 112.4 13.05 10.16 11.19 NA 7360 .0114 .7940 .0089 .7780 .0084 .7760 .0089	í	1		
MEAN SD MEAN SD MEAN SD MEAN SD MEAN NA 121.8 11.48 112.2 12.93 112.4 13.05 10:6 11.19 NA 7960 .0114 7940 .0089 .7780 .0084 .7760 .0039				
	A A	MEAN SD 112.2 12.93 .7940 .0089		MEAN

**CONTINUED ON RECORD 5751. REMARKS: *NEUTRON RAD. = 6.E11 N/SQCM.

新州外的安全的安全的大学的大学的 PAGE A-148 REF.NO. RECORD

TECHNOLOGY

FUNCTION

GENERIC PART NUMBER

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25LS22	B-BIT	IT SER/PAR REGIS	-		1073	5751
MANUFACTURER	PART	T NUMBER	SPECI	SPECIFICATION	DATA SOURCE	ш
AMD	AMZ	AM25LS22] ; ;
LDC RAD. TYPE	E PART OTY	r. BIAS	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		1 1 1 2 1 1 1	
CUM. DOSE (RADS):	0	N+ 100K	N+300K	K N+500K		
PARAMETERS	MEAN SD	EAN	SD MEAN	SD MEAN S	SD MEAN	as
		ļ.				1 1 1
VOL * MV	302.0 5.165 5 826 4159	304.6	11.60 301.2 7	7.461 297.6 7.	7.452	
* ; * ;		6.828	9.938	9.338	733	
* *	330 335.0 2.943 .0074	326.0 2.948	341.0 495.6 3 .0081 2.949 .	375.4 627.8 36 .0085 2.951 .0	367.2 .0110	
REMARKS: ***CON1	***CONTINUATION OF	RECORD	5750. *AVE. 0	OVER 9 PINS. **	**AVE. OVER 8 F	PINS
*************************************	*******	*********	* *	******	******	***
GENERIC PART NUMBER		FUNCTION	TECHN	TECHNOLOGY	F. NO.	RECORD
2510	OP AMP	WP	BIPOLAR	AR	43	1910
MANUFACTURER	PART	PART NUMBER	SPECI	SPECIFICATION	DATA SOURCE	; ;
HARRIS	HA25	-01			Ö	
LDC RAD. TYPE	E PART OTY.	. BIAS				
09-00 99	ED.	V+=+5V,	V-=-V	0 1 1 1 1 1 1 1 1 1 1 1	*	! ! !
CUM. DOSE(RADS):				-		v
PARAMETERS	MEAN SD	MEAN SD	MEAN	1 4	MEAN	SD
	. 00	0.800	0.0	0.1	1.2	!
	186.0	217.0	263.0	334.0	394.0	
IQ MA GBW KHZ	4.40 1753.	4.60	4.60	4.60	4.50	
	• . - -	· })	• •			

RECORD 1920

REF.NO.

DATA SOURCE

SPECIFICATION

PART NUMBER

MANUFACTURER

HARRIS

TECHNOLOGY BIPOLAR

FUNCTION OP AMP

GENERIC PART NUMBER

2520

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GENER	GENERIC PART NUMBER	MBER	FUNCTION	NC		TECH	TECHNOLOGY	1	RE	F . NO.	REF.NO. RECORD
2520] 	 	OP-AMP	 	 	BIPC	BIPOLAR		24	24-1	2000
MANUE	MANUFACTURER		PART NUMBER	UMBER		SPEC	SPECIFICATION	ION	. D	DATA SOURCE	JRCE
HARRIS	: : : : : : : : : : :	! ! ! !	HA2520	 	 	COM	COMMERCIAL	- - 	8 0	ROCKWELL	
rpc	RAD. TYPE		PART QTY.	BIAS						-	
8014	CD-60	8	! ! !	V+=15V		15V, NC	NIN-1	NPUT=51	V+=15V, V-=-15V, NONINV-INPUT=5V, INV-INPUT=OUTPUT	INPUT	OUTPUT
CUM.D	CUM. DOSE (RADS):		C	t o	30K	+0	100K)E	300K)
PARAM	PARAMETERS	MEAN	SD	MEAN		MEAN	SD	MEAN	SD	MEAN	SD
D VOS D 10S D 11B	NA A	 >	L	997 08. 70 117.6	997 .446 08.70 15.57 117.6 48.29	+1.43 1.47 0.622 15.60 281.4 115.7	1.47				*

REMARKS:

-1.33 2.55 -9.01 16.30 0.298 0.022 -3.01 0.976

0.499 0.923 -4.13 6.90 0.150 0.013 -1.74 0.570

-.256 0.360 -2.63 3.10 0.064 8.19 -.750 0.316

0.170 1.360 3.62 .3020

-.131 (-.870 0.022

NA ME

D VOS D 10S D 1B

300K

MEAN

dock SD

MEAN

SO

MEAN

¥ S

MEAN

SD

MEAN

PARAMETERS

CUM. DOSE (RADS):

V+=+5V, V-=-5V

8

09-00

LDC WK

BIAS

PART OTY.

RAD. TYPE

REMARKS:

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4

ORIGINAL	PAGE IS
OF POOR	QUALITY

UMBER SPECIFICATION DATA SOUN 20-2 BIAS BIAS UNK. 18.6K 102.3K 418.5K MEAN SD MEAN SD MEAN APASS 1FAIL 1F * 4PASS 5PASS 5PASS 4PASS 5PASS 5PASS 5PASS	GENERIC PART NUMBER	UMBER	FUNCTION	NO		TECH	TECHNOLOGY		α̈́	EF.NO.	REF.NO. RECORD
PART NUMBER SPECIFICATION DATA SOURC HA2-2520-2 AEROJET E PART QTY. BIAS 4 UNK. MEAN SD MEAN </td <td>2520</td> <td> </td> <td>OP AMP</td> <td></td> <td>! ! !</td> <td>BIPC</td> <td>LAR</td> <td>f f 1 1 f</td> <td>1 73</td> <td>25-15</td> <td>2060</td>	2520	 	OP AMP		! ! !	BIPC	LAR	f f 1 1 f	1 73	25-15	2060
E PART QTY. BIAS 4 UNK. 0 18.6K 102.3K 418.5K MEAN SD MEAN SD MEAN SD MEAN 4 APASS 4PASS 1FAIL 1F ** 4PASS 4PASS 5PASS 5PASS 4PASS 5PASS 5P	MANUFACTURER		PART N	IUMBER		SPEC	IFICAL	NOI	ā	ATA SOL	JRCE
E PART QTY. BIAS 4 UNK. 0 18.6K 102.3K 418.5K MEAN SD MEAN SD MEAN SD MEAN 4 PASS 4PASS 1FAIL 1F ** 4 PASS 4PASS 5PASS 5PASS 4PASS 5PASS 5P	HARRIS	 	HA2-25	20-5	 	: :		1 1 1 1 1	 -	EROJET	
4 UNK. MEAN SD MEAN SD MEAN MEAN SD MEAN SD MEAN 4PASS 4PASS 1FAIL 1F ** 4PASS 4PASS 3FAIL 4F ** 4PASS 4PASS 1FAIL 2F*** 4PASS 4PASS 5PASS 5PASS 4PASS 5PASS 5PASS 5PASS	- 1	PE PAR	T 0TY.	BIAS							
MEAN SD MEAN SD MEAN SD MEAN SD MEAN APASS SPASS SPASS SPASS APASS SPASS SPASS SPASS SPASS APASS SPASS			4	Z K			! ! ! !		 	: ! ! !	! ! ! ! !
AMETERS MEAN SD MEAN S	CUM.DOSE(RADS)		0	18	₩	102.	¥	418.	X		
4PASS 4PASS 1FAIL 4PASS 4PASS 3FAIL 4PASS 4PASS 4FAIL 4PASS 4PASS 5PASS 4PASS 4PASS 5PASS	PARAMETERS	MEAN	SO	MEAN	SD	MEAN	SD	MEAN	SD	MEAN	!
4PASS 4PASS 3FAIL 4PASS 4PASS 1FAIL 4PASS 4PASS 5PASS 4PASS 4PASS 5PASS	OIA	4PASS	! !	4PASS) 	1FAIL		# #	i I I I		
4PASS 4PASS 1FAIL 4PASS 4PASS 5PASS 4PASS 4PASS 5PASS	18	4PASS		4PASS		3FAIL		44 **			
4PASS 4PASS 5PASS 4PASS 4PASS 4PASS 4PASS 4PASS 4PASS 4PASS	110	4PASS		4PASS		1FAIL		2F***			
4PASS 4PASS 5PASS	OI	4PASS		4PASS		SPASS		SPASS			
	M85	4PASS		4PASS		SPASS		SPASS			

REMARKS: *MAX EXCEEDANCE=22MV. **MEAN=471NA(SPECMAX=200NA). ***MAX EXCONC=251NA

GENERIC PART NUMBER	UMBER	FUNCTION	NO		ŢĒĊ	TECHNOLOGY		RE	F.NO.	REF.NO. RECORD
2520	 	OP AMP		1 · · · · · · · · · · · · · · · · · · ·	BIPOL	BIPOLAR	; ; ; ; ;	100	1002	5010
MANUFACTURER		PART NUMBER	UMBER		SPE	SPECIFICATION	NOI	Q	DATA SOURCE	IRCE
HARRIS	 	HA9-2520	20	 	i -	; ; ; ; ;	 	TRW	TRW.	; ! ! !
_		PART OTY.	BIAS							
7750 CD-60	1 	5	V+=15V	· · · ·	15V. V	IN=1V(P	V+=15V, V-=-15V, VIN=1V(PP) 1KHZ, RIN=10K, RF=100K	Z. RIN	10K.	F=100K
CUM. DOSE(RADS):		Ö	ĕ.	300K	นั	500K	22	700K	•	1MEG
PARAMETERS	MEAN	SD	MEAN	SD	MEAN	SO	MEAN	SD	MEAN	i
TH1	83.24		70.91	0.47	70.45		70.62	0.57	70.85	0.63
	0.450	٧.	0.444	4.506	0.421	•	0.256	4.421	0.08	
TOS	0.600	1.283	17.64	11.32	19.50	N 1	23,40	27.50	18.01	
11111	17.47		219.2	36.58	2/1.6		278.6	13.10	289.1	_
AVOL 1KHZ UB AVOL 5KHZ 0B	82.76 69.29	0.25	71.64 67.13	0.56	70.91 66.84	0.64	71.17	0.65	71.38	0.69
DEMANDIC.										

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ORIGINAL PAGE 13 OF POOR QUALITY

GENERIC	GENERIC PART NUMBER	NUMB		FUNCTION	NO		TECH	TECHNOLOGY		RE	-	ECORD	
26LS31				QUAD DIF	QUAD DIFF. DRIVER	IVER	111	 	1 1 1 1 1	98	805-15	590	
MANUFA	MANUFACTURER			PART NUMBER	UMBER		SPEC	SPECIFICATION	NOI	DA	DATA SOURCE	CE.	
AMD	 	(((((((((((((((((((i	AM26LS31	31.	1 1 1 1 1	1	; ; ; ; ;	1 1 1 1 1	11	1	!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!	
TDC	RAD. TYPE	TYPE	PART	PART OTY.	BIAS								
8110	09-00	! ! !	1 	1	UNK.	i 	i 	† 	! ! !	1 1 1 1	1 	; ; ;	
CUM. DC	CUM.DOSE(RADS):	s):	0		12.5K	SK	ن ا	50K	9	100K	50	200K	
PARAMETERS	TERS		MEAN SD	SD	MEAN	SD	MEAN SU	รถ			MEAN		
VOL VOL		· >>	0.019	4.019 .0403	4.025	4.025 .0599	4.040 .0677	0.0	4.075	4.075 .0908	4.100.0570	0.0	

REMARKS:

2600 OP AMP BIPOLAR 45 1930 MANUFACTURER PART NUMBER SPECIFICATION DATA SOURCE HARRIS HA2600 IRT CORP LDC RAD. TYPE PART QTY. BIAS UNK. CO-60 4 UNK. CUM. DOSE(RADS): 0 100K CUM. DOSE(RADS): 0 100K VOS NV 283 NV 283 3510 VOS NV 283 IB(+NV) NA 588 IB(+NV) NA 588 IB(+NV) NA 588 IB(NINV) NA 588 IB(NINV) NA 588 IB(NINV) NA 588 IB(NINV) NA 598 IB(NINV) 999	GENERIC	GENERIC PART NUMBER	JMBER	FUNCTION	NO		TECH	TECHNOLOGY		2	REF.NO. RECORD	RECORD
AD. TYPE PART QTV. BIAS D-60 4 UNK. RS MEAN SD MEAN SD MEAN SD MEAN NA -:283 :3510	2600			OP AMP	 	1 1 1 1 1	BIP(JLAR	- - - - - -	 	i rū	1930
AD. TYPE PART QTY. BIAS D-60 4 UNK. (RADS): 0 100K RS MEAN SD MEAN SD MEAN SD MEAN NA283 .3510 .0100 1.111 NA588 1.105 60.67 26.86 NA 1.590 1.175 -48.8 105.7 DB 60.00 0.0 59.93 2.444 DB 113.8 0.500 85.67 15.01	MANUFAC	TURER		PART N	UMBER		SPE(SIFICAT	NOI	Δ.	ATA SOL	JRCE
AD. TYPE PART QTY. BIAS D-60 4 UNK. (RADS): 0 100K RS MEAN SD MEAN SD MEAN SD MEAN NA283 .3510 .0100 1.111 NA588 1.105 60.67 26.86 NA 1.590 1.175 -48.8 105.7 DB 60.00 0.0 59.93 2.444 DB 113.8 0.500 85.67 15.01	HARRIS			HA2600		 		! ! ! !	! !	H	RT COR	
(RADS): 0 100K RS MEAN SD MEAN SD MEAN SD MEAN MV283 .3510 .0100 1.111 MA588 1.105 60.67 26.86 NA 1.590 1.175 -48.8 105.7 DB 60.00 0.0 59.93 2.444 DB 113.8 0.500 85.67 15.01	TDC	RAD. TYF		r qtv.	BIAS							
RS MEAN SD MEAN SD MEAN SD MEAN SD MEAN NA 1.590 1.175 -48.8 105.7 bb 60.00 0.0 59.93 2.444 bb 113.8 0.500 85.67 15.01	CNK.	09-00	 	4	UNK.	 	! ! !	 	 	1 1 1 1 1 1	! ! !	; ; ;
RS MEAN SD MEAN SD MEAN SD MEAN SD MEAN NA283 .3510 .0100 1.111 NA588 1.105 60.67 26.86 NA 1.003 .5989 .5150 .5809 NA 1.590 1.175 -48.8 105.7 DB 60.00 0.0 59.93 2.444 DB 113.8 0.500 85.67 15.01	CUM. DOS	E(RADS):			¥	OK						
MV283 .3510 .0100 1.111 NA588 1.105 60.67 26.86 NA 1.003 .5989 .5150 .5809 NA 1.590 1.175 -48.8 105.7 DB 60.00 0.0 59.93 2.444 DB 113.8 0.500 85.67 15.01	PARAMET	ERS	MEAN	S	MEAN	S	MEAN	SD	MEAN	So	MEAN	SD
NA588 1.105 60.67 NA 1.003 5989 .5150 NA 1.590 1.175 -48.8 DB 60.00 0.0 59.93 DB 113.8 0.500 85.67	VOS	 	-, 283	.3510	.0100	1.11	 	 	! ! !	t 1 1) 1 1 1	i
NA 1.590 1.175 -48.8 DB 60.00 0.0 59.93 DB 113.8 0.500 85.67	IB(+NV)		1.588	1.105	60.67	26.86						
DB 60.00 0.0 59.93 DB 113.8 0.500 85.67	IOS	_	1.590	1.175	-48.8							
DB 113.8 0.500 85.67	CMRR		60.00	0.0	59.93	2.444						
	GAIN		113.8	0.500	85.67	15.01						

GENERIC PART NUMBER	IL.	NO	TECHNOLOGY		NO.	RECORD	
2600	OP AMP		BIPOLAR	 	1-34	1970	
MANUFACTURER	PART NUMBER	IUMBER	SPECIFICATION	ION	DATA SOURCE	RCE	
HARRIS	HA2600		F F F F F F F F F F	 	JPL	I I I I	
RAD. TYPE		BIAS					
NDNE CO-60		UNK.	*	; ; ; ; ; ; ;		1 1 1 1 1	
CUM. DOSE(RADS):	0	75K	150K	300K	ĕ	600K	
PARAMETERS MEAN	AN SD	MEAN SD	MEAN SD	MEAN SD	MEAN	as	
M.			.37		1		
			37.2 4 44.5 2	15.5 40.90 39.5 38.11	17.5	4 W	
+GAIN DB -GAIN DB	107.	104.8 .3460	FAIL	FAIL	ب ب	FAIL	
REMARKS:	# # # # # #	**************************************	***************************************	• • •			
GENERIC PART NUMBER	FUNCTION	NO	TECHNOLOGY			RECORD	
2620	OPAMP		BIPOLAR			2020	
MANUFACTURER	PART NUMBER	IUMBER	SPECIFICATION	NOI	DATA SOURCE	RCE	
HARRIS	HA2620-2	1-2	! ! ! ! ! ! ! ! ! ! ! ! ! ! ! ! ! ! !		MOTOROLA	1 1	
LDC RAD. TYPE P	PART OTY.	BIAS					
7842 CD-60+N*	S	UNK		; ; ; ; ; ; ; ;			
CUM.DOSE(RADS):	0	*N+X06	270K+N*	1, 35M+N	REMARKS	3KS	
PARAMETERS MEAN	SO	MEAN SD	MEAN SD	MEAN SD	MEAN	SO	
W			5.663			; ; ; ;	
IIN(+) NA 4.6	4.680 6.044 3.600 10.66	1216.4 301.1	340.0	230.0 735.4 447 5 852 1	4 FUNCT	IONAL DES-	
Y.		381.0 209.8	813.8 122.8				
AVUL K 135.2 ICC MA 2.780	ი .	2.590 . 1597	38.15 2.588	36.05 .4950 1.715 1.063		@1.4M	
E	21 1.490 I5=4.12 N/	23.07 1.571 SQCM: VALUES	22.93 1.648 @"CUMDOSE=O"	20.85 1.909 ARE POST-NEUTRON.	OTRON.		

GENERIC PART NUMBER	ER FUNCTION	NO	TECHNOLOGY		REF.NO. RECORD
2620	OP AMP		BIPOLAR	; ; ; ; ; ; ; ; ; ; ; ; ; ; ; ; ; ; ;	1025 5270
MANUFACTURER	PART NUMBER	UMBER	SPECIFICATION		DATA SOURCE
HARRIS	HA2620	. 1.			TRW
LDC RAD. TYPE	PART OTY.	BIAS			
7816 C0-60	ر س	V+=15V, V-=-	V+=15V, V-=-15V, NONINV-INPUT TO GND	NPUT TO GND	VIA 6.8K, **
CUM.DOSE(RADS):	0	10K	25K	SOK	100K
PARAMETERS	MEAN SD	MEAN SD	MEAN SD	MEAN SD	MEAN SD
AVOL DB 10	107.0 2.229	108.7 1.925	107.6 1.987	106.8 1.674	*
₹ Z	-1.56 0.835	_	-1.30 0.623	-1.76 0.573	3 -154, 351.1
₹:	0.276 1.190	0.275 1.165	0.283 1.161	0,293 1,158	0.883
AN S	2.4	-0.34 2.491	-0.71 3.116	-1.03 3.41	1 -45.7 97.82
SLEW -V/MS 27	27.80 1.789	7 32.80 2.588 3 9 28.20 1.096 2	28.20 1.096	27.20 1.304	* *
REMARKS: * NO DATA TAKEN. ** RIN=RL=10K, RF=20K, NO SIGNAL INPUT.	A TAKEN. *	* RIN=RL=10K,	RF=20K, ND S	IGNAL INPUT	

GENERIC PART NUMBER	JMBER	FUNCTION	NOI		TECI	FECHNOLOGY		α	REF.NO. RECORD	RECORD
271.508		32X8 PROM	PROM		LST		 	1	25-16	2050
MANUFACTURER		PART	PART NUMBER		SPE	SPECIFICATION	NOI	۵	DATA SOURCE	RCE
АМО	i 	AM27LSO8DM	SOBDM	i 1 1 1 1		; { { !	1	i V	AEROJET	1 1 1 1 1
LDC RAD. TYPE		PART OTY.	BIAS							
7703 C0-60			CNK.		 	; ! ! !	; ; ; ;	; ; ; ;	; ; ; ;	
CUM. DOSE (RADS):				65K	=	185K	22	525K		
PARAMETERS	MEAN	SD	MEAN	SD	MEAN	SD	MEAN	SO	MEAN	SD
VIK	SPASS		5PASS	 	SPASS	1 ! ! !	SPASS	 	: : :	
, עסר אסר	SPASS		SPASS		SPASS		SPASS			
—	SPASS		*		1FAIL		1FAIL			
HII	SPASS		*FAIL		2FAIL		2FAIL			
IIL	SPASS		SPASS		SPASS		5PASS			
ICEX	SPASS		SPASS		SPASS		SPASS			
	SPASS	1	SPASS		SPASS					
REMARKS: **S/N	50 FAILED	ED (P	(PREVIOUS NEUTRONS: 5.E10N/SQCM).	NEUTRO	NS: 5.1	10N/SC		% 50g	*S/N 50&54(PREV.FXR)	V.FXR)

GENERIC	GENERIC PART NUMBER	VUMBER	FUNCTION	NO	1	TECHNO	TECHNOLOGY		~	EF.NO.	REF.NO. RECORD
2700			10 VOL	10 VOLT REFERENCE	ENCE	BIPOLAR	LAR		 	195	1890
MANUFACTURER	TURER		PART NUMBER	IUMBER		SPEC	SPECIFICATION	NOI	۵	DATA SOURCE	JRCE
HYBRID	HYBRID SYSTEMS		AD2700		[]]	i i i	L		. 3	WESTINGHOUSE	HOUSE
TDC	RAD. TYPE		PART OTY.	BIAS					:		
CNK.	09-00	4	4	VIN=+18VDC	BVDC) 	; ; ; ; ;	 	; ; ; ; ;	! ! ! !
CUM. DOS	CUM.DOSE(RADS):	;;	0	40	400K	86 ∘	800K				
PARAMETERS	FRS	MEAN	SD	MEAN	S	MEAN	SD	MEAN	SD	MEAN	SO
NIA OV	15 V	9.997		9.998		9.998	.0005		 	 	! ! !
IN VIN=15	15 MA	9.075	5 .0500	9.050	.0577	9.050	.0577				
VIV OV	18	66.6		966.6		966.6	000				
VO 1L=C	>	9.997		9.998		966.6	.0005				
V0 IL=1	> 0	9.997		9.998	.0007	9.998	.0005				
										i	

800K
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400X
FROM
K AND BIASED
AND
400K
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UNBIASED UP TO 400K
MERE
PARTS
REMARKS:

GENERI	GENERIC PART NUMBER	MBER	FUNCTION	NO		TECH	rechinology	;	α	EF.NO.	REF.NO, RECORD	
2700			OP AMP			BIP	BIPOLAR	 	4	46	1940	
MANUFA	MANUFACTURER		PART NUMBER	UMBER		SPEC	SPECIFICATION	NOI	۵	DATA SOURCE	JRCE	
HARRIS			HA2700-2	1-2	1 	i i i i	 	1 1 1 1 1		IRT CORP		
LDC	RAD. TYPE			BIAS	;	:						
	09-00	O	 []]	V+=+15V, V-=-15V	\ \ \ \ \	15V		 	! ! ! !	; ; ; ; ; ;	; ; ; ;	
CUM. DO	CUM. DOSE(RADS):	,		F	Σ		52K	11	170K		360K	
PARAMETERS	TERS	MEAN	SD	MEAN	SD	MEAN	SD	MEAN	SD	MEAN	SD	
V 10	ΑW	000.		000	! ! ! !	1.200	 - - -	1.800	! ! ! !	3.000		
110	¥ Z	0.900		0.800		1.300		2.900		5,7	•	
18	Ϋ́	6.500		7.100		8.600		13.60		16, 10	_	
01	ď	90.00		88.00		79.00		60.00		42.00	^	
GBW	KHZ	3153.		3012.		2616.		1896.		1235.		

REMARKS:

2700
NUMBER
PART
ERIC

PAGE A-184 - 144 - 144 - 144 - 144 - 144 - 144 - 144 - 144 - 144 - 144 - 144 - 144 - 144 - 144 - 144 - 144 - 144 - 144 - 144 - 144 - 144 - 144 - 144 - 144 - 144 - 144 - 144 - 144 - 144 - 144 - 144 - 144 - 144 - 144 - 144 - 144 - 144 - 144 - 144 - 144 - 144 - 144 - 144 - 144 - 144 - 144 - 144 - 144 - 144 - 144 - 144 - 144 - 144 - 144 - 144 - 144 - 144 - 144 - 144 - 144 - 144 - 144 - 144 - 144 - 144 - 144 - 144 - 144 - 144 - 144 - 144 - 144 - 144 - 144 - 144 - 144 - 144 - 144 - 144 - 144 - 144 - 144 - 144 - 144 - 144 - 144 - 144 - 144 - 144 - 144 - 144 - 144 - 144 - 144 - 144 - 144 - 144 - 144 - 144 - 144 - 144 - 144 - 144 - 144 - 144 - 144 - 144 - 144 - 144 - 144 - 144 - 144 - 144 - 144 - 144 - 144 - 144 - 144 - 144 - 144 - 144 - 144 - 144 - 144 - 144 - 144 - 144 - 144 - 144 - 144 - 144 - 144 - 144 - 144 - 144 - 144 - 144 - 144 - 144 - 144 - 144 - 144 - 144 - 144 - 144 - 144 - 144 - 144 - 144 - 144 - 144 - 144 - 144 - 144 - 144 - 144 - 144 - 144 - 144 - 144 - 144 - 144 - 144 - 144 - 144 - 144 - 144 - 144 - 144 - 144 - 144 - 144 - 144 - 144 - 144 - 144 - 144 - 144 - 144 - 144 - 144 - 144 - 144 - 144 - 144 - 144 - 144 - 144 - 144 - 144 - 144 - 144 - 144 - 144 - 144 - 144 - 144 - 144 - 144 - 144 - 144 - 144 - 144 - 144 - 144 - 144 - 144 - 144 - 144 - 144 - 144 - 144 - 144 - 144 - 144 - 144 - 144 - 144 - 144 - 144 - 144 - 144 - 144 - 144 - 144 - 144 - 144 - 144 - 144 - 144 - 144 - 144 - 144 - 144 - 144 - 144 - 144 - 144 - 144 - 144 - 144 - 144 - 144 - 144 - 144 - 144 - 144 - 144 - 144 - 144 - 144 - 144 - 144 - 144 - 144 - 144 - 144 - 144 - 144 - 144 - 144 - 144 - 144 - 144 - 144 - 144 - 144 - 144 - 144 - 144 - 144 - 144 - 144 - 144 - 144 - 144 - 144 - 144 - 144 - 144 - 144 - 144 - 144 - 144 - 144 - 144 - 144 - 144 - 144 - 144 - 144 - 144 - 144 - 144 - 144 - 144 - 144 - 144 - 144 - 144 - 144 - 144 - 144 - 144 - 144 - 144 - 144 - 144 - 144 - 144 - 144 - 144 - 144 - 144 - 144 - 144 - 144 - 144 - 144 - 144 - 144 - 144 - 144 - 144 - 144 - 144 - 144 - 144 - 144 - 144 - 144 - 144 - 144 - 144 - 144 - 144 - 144 - 144 - 144 -

GENERIC PART NUMBER	MBER FUNCTION	NO		TECH	TECHNOLOGY		RE	_:	RECORD
2700	0P-AM	OP-AMP LOW PWR	χ.	81PC	BIFOLAR	! ! ! !	66	f. J J	2070
MANUFACTURER	PART	PART NUMBER		SPEC	SPECIFICATION	ION	Q	DATA SOURCE	3CE
HARRIS	HA2700		1 1 1 1 1	COM	COMMERCIAL		JPL		f
LDC RAD. TYPE	E PART GTY.	BIAS							
794-1 2.5MEV EL.	il. 4	V+=+12	V+=+12V, V-=-12V	-12V	t t t t	! ! ! ! !	1 † † - -	 	f
CUM.DOSE(RADS):	0		¥		8	•	Š		40K
PARAMETERS	MEAN SD	MEAN	SD	MEAN	SD	MEAN	SD	MEAN	SD
D VOS MV D IOS NA D IB NA GAIN(+3V)	119.3 2.307	022 079 116 	.032 .092 .168 1.812 0.642		.062 .396 1.879 .476	337 356 1.516 109.8	337104 356 3.538 1.516 3.538 109.8 .638	FAIL	FAIL
OEHADKe.									

GENERIC PART NUMBER		FUNCTION	z		TECH	TECHNOLOGY		RE	F. NO.	REF.NO. RECORD
2901	f 1 1 1	4-BIT MICROPROCSSR.	ICROPR	OCSSR.	11.	 	 	0	1074	5760
MANUFACTURER		PART NUMBER	MBER		SPEC	SPECIFICATION	ION	DA	DATA SOURCE	RCE
AMD	 	AM2901	† † † † †		; ; ;	 	 	TRW	TRW	j
LDC RAD. TYPE PART QTY.	PE PART		BIAS							
UNK. CD=60 + N*	1 	2	ONK :) 	1 1 1 1 1 1	 	1 - - - -	1
CUM.DOSE(RADS):	• O		*N+500K	¥						
PARAMETERS	MEAN	S	MEAN SD	SD	MEAN	SD	MEAN	SD	MEAN	SD
VOH(13)* V VOL(14)* V -1SC(13)* MA -11L(25)* UA	2.979 .0170 .3069 .0108 60.71 6.969 304.1 10.98	2.979 .0170 .3069 .0108 50.71 6.969	2,970 .0243 3,3019 .0123 62.62 9.421 308.7 14.83	.0243 .0123 9.421 14.83) 	 	 	! ! !

ORIGINAL FACE IJ OF POOR QUALITY

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2909	***
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UMBER	***
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GENERIC PART NUMBER: 2909	**************
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)		;	-				: i	יים: ארכסאם	
2909		 	4-BIT	UPROG	4-BIT UPROG SEQNCER	. 20	LAR		;	1055	5570
MANUFA	MANUFACTURER	•	PART NUMBER	UMBER		SPEC	SPECIFICATION	NOI	20	DATA SOURCE	JRCE
AMD	 	! ! ! !	AM2909	; 	} { { }	(1 	! ! ! !	F	TRW	! ! ! !
TDC	RAD. TYPE	E PAR	PART QTY.	BIAS						1	;
78110	CD-60 + N*	•	10	VCC(PI	VCC(PIN 28)=+5V	+5V.					- -
CUM.DO	CUM.DOSE(RADS):		0	*N+200K)OK	1					
PARAMETERS	TERS	MEAN	SO	MEAN	SS	MEAN	SD	MEAN	SD	MEAN	SD
VOL1(CNP VOL1(Y3) VOL1(Y1) VOL1(Y1) VOL1(Y1) IIL(PUP) IIL(OE)	VOL1(CNP4) MV 304.2 5 VOL1(Y2) MV 273.1 6 VOL1(Y2) MV 273.0 7 VOL1(Y1) MV 268.7 7 VOL1(Y0) MV 269.3 7 IIL(PUP) UA -4×7 7 IIL(QE) UA -4×7 7 IIL(QE)	273.1 273.1 273.0 268.7 269.3 -4*7		. 373 275.1 6.88 . 379 274.8 7.55 . 424 270.4 7.29 . 987 271.4 7.806 . 986 -453 42.38	275.1 6.887 275.1 6.887 274.8 7.554 270.4 7.291 271.4 7.806 -453 42.38		 	 		1 	† 1 1 1 1

GENER	GENERIC PART NUMBER	UMBER	FUNCTION	NO		-	TECHNOLOGY		RE	N.	REF.NO. RECORD
2909		 	4-BIT MIC	4-BIT MICRPROG SEOR	G SEOR	11.		; ; ; ; ;	9	1075	5770
MANUF!	MANUFACTURER		PART NUMBER	UMBER		SPEC	SPECIFICATION	ION	DA	DATA SOURCE	JRCE
AMD]]] 	AM2909DM	DM	! ! !	; ; ; ;	; ; ; ;	: 	TRW	TRW.	! ! ! !
207			PART OTY.	BIAS							
[]]- * ! *	*N + 09-00	* *		VCC=+5V	. No	; ; ; ; ;	; ; ; ;	 	} 	! ! !	, , , , , ,
CUM. DC	CUM.DOSE(RADS):		•	*N+100K	Š	*N+300K	X	*N+500K	X 00		
PARAMETERS	ETERS	MEAN	SD	MEAN	SD	MEAN	SD	MEAN	SD	MEAN	SD
VIH(5)	> ≥	1.592	.0150	1.591	.0167	1.589	. 0162 54 BO	4 4	.0164		
VOH(5)	-	2.912	.0243	2.906	0248	2.903	.0249	2.904	.0250		
VOL(5)) MV	259.8	16.54	261.5	16.57	263.0	16.59	262.8	16.56		

CONTINUED .. ON REC. 5771 REMARKS: *NEUTRON RAD. = 6.E11 N/SQCM. ***7816DP. **(X)=AVERAGE OVER X PINS.

2000	 	A-RIT A		A-RIT MICDODOG SEOD	:	 	; ; ; ;	1075	1075	5771
				, , ,	! :			?	,	;
MANUFACTURER		PART NUMBER	JMBER	:	SPEC	SPECIFICATION	NOI	DA	DATA SOURCE	RCE
AMD	: ! : :	AM2909DM	X C) 	i ! ! !		
LDC RAD. TYPE		PART QTY.	BIAS						; ; ;	; ; ;
CUM.DOSE(RADS):		0	N+100K	Š	N+300K	ž	N+500K	ğ		
PARAMETERS	MEAN	SO	MEAN	SD	MEAN	SD	MEAN	SD	MEAN	SD
VOL(5) MV	305.6	305.6 19.26	307.0 19.27	19.27	309.0	309.0 19.31	309.0	309.0 19.28) ; ; ;	<u> </u>
VOL(5) MV	346.0	346.0 22.08		347.9 22.09		349,6 22,11	349.6	349.6 22.10		
-10S(5) MA	62,65	2.032	62.51	2.033	62.36	2.034	62.17	2.034		
_	1.675	1.675 .3945	1, 180	1, 180 . 6325 1.203 . 5378	1.203	.5378	1.463 .7018	7018		
<u>-</u>	. 1455	. 2980	.0755	. 5221	081	4338	.0280	.0280 .5775		
	CONTINUATION OF DEC	OF DEC	5770	LNCC	TNUED	N RFCO	CONTINUED ON RECORD 5772			

GENERIC PART NUMBER	BER FUNCTION	NOI	TECHNOLOGY		REF.NO. RECORD	RECOR
2909	4-BIT MIC	4-BIT MICRPROG SEGR		 	1075	5772
MANUFACTURER	PART I	PART NUMBER	SPECIFICATION	ION	DATA SOURCE	URCE
AMD	AM2909DM	WQ6	# F # # # # # # # # # # # # # # # # # #	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	 	1 1 1 1 1 1
LDC RAD. TYPE	RAD. TYPE PART GTY.	BIAS	; ; ; ; ; ; ; ;)
CUM. DOSE (KADS):	•		N+300K	N+500K		
PARAMETERS	MEAN SD	MEAN SD	MEAN SD	MEAN SD	MEAN	as

REMARKS: CONTINUATION OF RECORD 5771.

11.63 518.5 .5692 4.754

304.9 602 E 1.226 95.00

306.8 11.58 522 379.6 1.072 ,4594 96.60 4.775

307.3 11.54 474 478.5 .9545 .5802 96.82 4.789

310.7 11.20 514 265.0 1.245 .3776 99.60 4.722

IIL(21) UA IIH(21) PA IIH2(21) NA ICC(1) MA @PIN 28 (VCC=5.5V)

GENERIC PART NUMBER: 2909

REF.NO. RECORD

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ORIGINAL OF POOR	PAGE IS QUALITY
URCE	1
DATA SOURCE	1 1 1 1 1
	5

TECHNOLOGY REF.NO. RE	(C)	SER SPECIFICATION DATA SOURCE	AEROJET	BIAS	+15V, -15V, WORST-CASE CIRCUIT	13.5K 59K 113K	SD MEAN SD MEAN		5PASS 5PASS 5PASS	SFAIL	SFAIL	TAIL SHAIL SHAIL
JMBER FUNCTION	DOAL SPA	PART NUMBER	DG303AP	PART GTY.	5 + 15	0	MEAN SD ME			ın u	י מי	n u
GENERIC PART NUMBER		MANUFACTURER	SILICONIX	LDC RAD. TYPE	7840 00-50	CUM. DOSE(RADS)	PARAMETERS	FUNCTIONALITY	** NIA	(S(OFF)	(D(GFF)	10 (N)

DATA SOURCE AEROJET SPECIFICATION BIAS DG300AA RAD. TYPE PART OTY. SILICONIX

CK. ល 09-00 7724 LDC

MEAN S MEAN S MEAN O.62 SFAIL 1.6 SFAIL -1.1 SFAIL SPASS 5PASS **** 5FAIL SFAIL S *** MEAN S 0 SPASS SPASS SPASS SPASS SPASS SPASS SPASS MEAN CUM. DOSE (RADS): A A A A A PARAMETERS IS(OFF) ID(OFF) ID(ON) I11 ** I2 *** INH * NIA

S

GENERIC PART NUMBER	FUNCTION	T ECHNOLOGY	REF.NO	NO. RECORD
307	DUAL SPDT SWITCH	CMDS	25-19	
MANUFACTURER	PART NUMBER	SPECIFICATION	DATA	SOURCE
CONIX	AP		AEROJET	JET
LDC RAD, TYPE PA	PART OTY. BIAS		1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	1 1 1 1 1
09-00				
CUM.DOSE(RADS):				
METERS M	SD	MEAN SD MEAN	SD	MEAN SD
VIN* IS(OFF) ** MA 5PASS ID(OFF) ** MA 5PASS ID(ON) ** MA 5PASS I1	VIN* 5PASS 5PASS 1S 5PASS 1S 5PASS 1S 5PASS 1S 5PAIL 1D (DF) ** MA 5PASS 5FAIL 1D (DN) ** MA 5PASS 5FAIL 1D (DN) ** MA 5PASS 5FAIL 11 *** MA 5PASS 3.1 5FAIL 11 *** MA 5PASS 3.1 5FAIL 12 *** MA 5PASS 5PASS 3.1 5FAIL 1NH 5PASS 5PA	A. ***SPEC.MAX: I1=10UA; I2=-10UA.	1=10UA; I2 *******	=-10UA.
GENERIC PART NUMBER	FUNCTION	TECHNOLOGY	REF.NO	ND. RECORD
336	RF PHASE DETECTOR	BIPOLAR	1-126	
MANJFACTURER	PART NUMBER	SPECIFICATION	DATA	DATA SOURCE
MOTOROLA	MIC336		JPL	
RAD. TYPE	_			
NONE 2.5MEV EL	4 UNK.		-	
CUM.DOSE(RADS):	30K	75K	150K	9
AETERS M	SD MEAN	SD ME	gs .	EAN
DET BAL V 1A . 799 DET BAL V 1B . 933	. 78 .0133 33920363	. 76 .0120 .75 .91 .0162 .90	5 .0128 0 .0152	.72 .0123 .86 .0111

REMARKS:

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***	***************************************	******	****	
	GENERIC PART NUMBER	FUNCTION	TECHNOLOGY	REF.NO. RECORD
	939	RF PHASE DETECTOR	BIPOLAR	1-127 2150
	MANUFACTURER	PART NUMBER	SPECIFICATION	DATA SOURCE
	MOTOROLA	MIC336		JPL
	LDC RAD. TYPE PAR	RT OTY. BIAS		
	2.5MEV EL	4 UNK.	9	
	CUM.DOSE(RADS):	30K	75K 150K	600K
	PARAMETERS MEAN	SD MEAN	MEAN SD MEAN SD	MEAN SD
	DET BAL V 1A . 744 DET BAL V 1B . 782	.	.72 .0350 .71 .0312	. 69

REMARKS:

GENERIC PART NUMBER	T NUMBER	FUNCTION		TECHNOLOGY	LOGY	A.	REF. NO RECORD	PECHEN
339	1	QUAD COMP	QUAD COMPARATOR	BIPOLAR	R	400		2200
MANUFACTURER	œ	PART NUMBER	IMBER	SPECIF	SPECIFICATION	AC.	DATA SOURCE	ii.
FAIRCHILD		UA339PC	1			1 3	WESTINGHOUSE	USE
LDC RAD T	RAD. TYPE PART QTY.		BIAS					
7918 CO-60	S	; ; ;	V+=+5V	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1				! ! !
CUM.DOSE(RADS):)3):		400K					
PARAMETERS	MEAN	SD	MEAN SD	MEAN SD	MEAN	SO	MEAN	SD
VIOS M IIB N IOS N	MV .2095 NA340 NA .0305		00000 2.042 105 .7165 446 1.633				1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	

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GENERIC PART NUMBER	NUMBER	FUNCTION	NO		TEC	TECHNOLOGY		œ	EF.NO.	REF.NG. RECORD	
339	1	QUAD	QUAD COMPARATORS	ORS	BIPC	BIPOLAR	! ! ! !	; =	100	2220	
MANUFACTURER		PART NUMBER	IUMBER		SPEC	SPECIFICATION	ION	۵	DATA SOURCE	JRCE	
АМБ	 	LM339N			i !	!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!	1 1 1 1	j. } !	WESTINGHOUSE	IDUSE	
LDC RAD T	RAD, TYPE PART QTY.	RT OTY.									
		: : : : : :	\chi==\ \chi=2\	 	 	1 ! ! ! ! ! ! ! ! ! ! ! ! ! ! ! ! ! ! !	! ! ! !] 	
CUM. DOSE(RADS):):	0	40	400K							
PARAMETERS	MEAN	1	MEAN	•	MEAN	SD	MEAN	SD	MEAN	SD	
VIOS MV IIB NA IOS NA		.3201	. 1240 1.678 350 00000 0.275 1.819	1.678	f t t	 	1 1 1 1	1 1 1 1			

REMARKS:

### GUAD COMPARATORS BIPOLAR FACTURER PART NUMBER SPECIFICATION ETICS LM339N RAD. TYPE PART QTY. BIAS CO-60 5 V+=5y CO-60 5 V+=5y METERS MEAN SD MEAN SD MEAN SD MY042 1688 .4360 1.381 MY042 1688 .4360 1.381 NA003 0.0506 .4238 2.365 NA003 0.047 -219 1.857	GENERIC PART NUMBER	ART NUN		FUNCTION	N		TECH	TECHNOLOGY		REF	NO.	REF.NO. RECORD
ER PART NUMBER SPECIFICATION LM339N . TYPE PART QTY. BIAS 60 5 V+=5y ADS): 0 400K MEAN SD MEAN SD MEAN SD MY 042 . 1688 . 4360 1.381 NA 306 . 0506 . 4238 2.365 NA 003 0747 219 1 857	339			QUAD CI	DMPARA	TORS	BIPC	LAR	 	6	00	2230
LM339N TYPE PART QTY. BIAS 60 5 V+=5Y ADS): 0 400K MEAN SD MEAN SD MEAN SD MV042.1688 .4360 1.381 NA306 .0506 .4238 2.365 NA003 0747 -219 1 857	MANUFACTU	RER		PART NI	UMBER		SPEC	HICAT	NOI	DAT	DATA SOURCE	RCE
60 5 V+=5V ADS): 0 400K ADS): 0 400K MEAN SD MEAN SD MEAN MV042.1688 .4360 1.381 NA306 .0506 .4238 2.365 NA303 .0747 -219 1.857	SIGNETICS	F L ' F I I	- - - - 	NGEEWI	1 1 1	 	!		 	WES	WESTINGHOUSE	OUSE
ADS): 0 400K MEAN SD MEAN SD MEAN SD MEAN WV042 .1688 .4360 1.381 NA306 .0506 .4238 2.365 NA003 .0747 - 219 1.857		D. TYPE		OTV.	BIAS				·		İ	
ADS): 0 400K MEAN SD MEAN SD MEAN SD MEAN WV042.1688 .4366 1.381 NA306.0506 .4238 2.365 NA003 .0747 - 219 1 857	. 0	09-	O	; ; ;	V+=5y			† † †			 	1 1 1 1
MEAN SD MEAN SD MEAN SD MEAN WV 042 . 1688 . 4360 1.381 NA306 .0506 .4238 2.365 NA303 .0747219 1.857	CUM. DOSE (RADS):	0		. 4	χ						
MV042 .1688 .4360 1.381 NA306 .0506 .4238 2.365 NA003 .0747 - 2.19 1.857	PARAMETER	S	MEAN	S	MEAN	1	MEAN	SO	MEAN	!	MEAN	SD
	VIOS 11B 10S	>			. 4360 . 4238 219	1.381 2.365 1.857	1 1 1 1	 			 	

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REMARKS:

REF.ND. RECORD 100 2240

TECHNOLOGY

QUAD COMPARATOR

FUNCTION

GENERIC PART NUMBER

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GINAL POOR	

MANUFACTURER		PART NUMBER	UMBER	 	SPEC	SPECIFICATION	NOI	0	DATA SOURCE	CE
	. -	N6EEM7						3	WESTINGHOUSE	
Ϋ́Р		OTY.	BIAS							
09-00		נו נו	V+=5V	\$ 1 1 1 1	; 	f † ! !	 	i 	1 } 	t t i 1 1
CUM. DOSE (RADS):	0		4	400K						
	1	S	MEAN SD	MEAN SD	MEAN	MEAN SD	MEAN	MEAN SD	MEAN SD	SD
	. 1330 . 0578 247 . 0420 . 0530 . 1355	.0578 .0420	.6690 350 .7100	.6690 1.556 350 00000 .7100 1.472		f ; ; ;	! ! !	1 1 # T	 	

REMARKS:

GENERI	GENERIC PART NUMBER	NOM	3ER	FUNCTION	NO.		TECH	TECHNOLOGY		RE	REF.NO.	RECORD	
3523	 	! !	1 1 1	OVER V	OVER VOLT SEN CKT	CKT	BIPC	BIPOLAR	 	194	4	2490	
MANUFACTURER	CTURER			PART NUMBER	UMBER		SPEC	SPECIFICATION	NOI	DA	DATA SOURCE	RCE	
SG	 		 	SG3523Y	<u> </u>	1 t t t	! ! !	1 f 3 f 4	; ; { ! !	1 33 1 33	WESTINGHOUSE	OUSE	
rpc	RAD. TYPE	TYPE		PART OTY.	BIAS								
CNK.	09-00	i . ! !	; ; ;	4	UNK.	! ! ! !	! ! ! ! !	i I I I I	† 1 1 1) 	 	! ! ! !	
CUM.DOSE(RADS):	SE (RAD!	s):	0	;	40	400K			1		- 1		
PARAMETERS	TERS		MEAN	SD	MEAN	SD	MEAN	SD	MEAN	SD	MEAN	SD	
ICC 35	AM		.800	. 5888	5.075	. 2986	1 1 1 1	[]] [[; ; ; !	f - - - -	
VOUT (OFF)	N=5V		. 5000	.0416	2.568	.0346							
ISOURC	E UA		143.3	94.27	167.3	7.182							
ICE	Ž		1100	.0294	. 4200	.0632							
VOUT ((NO	>	3.348	.0150	3.403	.0020							
VSAT	_	· >	1840	.0122	. 2360	.0145							
REMARKS:													

	POCT 13 VILLAUS

UFACTURER	12-BIT D/A CONVRTR.	100 47 4							
MANUFACTURER MNC	DART N	D/A CUN	VRTR.	CMOS	s		÷	1-133	2120
		PART NUMBER		SPEC	SPECIFICATION	NOIL	O	DATA SOURCE	JRCE
	MN371	 	i i 1 1	i 			JAD L	Jel	
LDC RAD. TYPE PART	PART OTY.	BIAS				1			1
2.2MEV EL	8	VCC=15V, VEE=-15V	/, VEE	=-15V.	·			 	
CUM, DOSE (RADS): O		30K	¥	•	75K	<u>+</u>	150K		300K
PARAMETERS MEAN	SD	MEAN	SD	MEAN	SD	MEAN	SD	MEAN	SD
NONLIN * LSB 1940		.4760) 	.8160	f 1 1 1	2.170		5.250	
7 W		16.57		36.40		69.80		112.2	~ !
+SR(MIN) MV/S 639.0		610.0		567.0		513.0		452.0	•
2		658.0		643.0		627.0		595.0	^
ΡA		534.0		530.0		557.0		592.0	^
[IL(MAX) UA 125.9		126.1		126.0		126.2		126.2	~ !
-PARAMETERS CONT.	NO *	REC.	2121	7 21 167	(NOT AV)/\delta (157	, E # # /;	. 1 5.
709.	* MEA	* MEAN=WORST-CASE VALUE (NOT AVG.) @VCC=15V. VEE=-15V	CASE	VALUE	(NOT A)	/G.) @VC	C= 15V.	VEE.	٠,

GENERIC PART NUMBER	FUNCTION			RECORD
371	12-BIT D/A CONVRTR.	CMDS	1-133	2121
MANUFACTURER	PART NUMBER	SPECIFICATION	DATA SOURCE	JRCE
MNC	MN371			
LDC RAD, TYPE PART QTY, BIAS	PART QTY. BIAS	BIAS	; 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	

CUM. DOSE (RADS):	0		• •	30K	7	75K	15	150K	ĕ	300K
PARAMETERS	MEAN SD	SD	MEAN SD	SD	MEAN SD	SD	MEAN SD	SD	MEAN SD	S
ABS ACC	1 1 1 1 1	1 1 1 1	! ! !	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	1 1 1 1	i ! !	1 t 1 1	 	t 	1.
(MAX) % FSR	.0497		1658		0.364		0.696		1.122	
ICC-L(MAX) MA	2.30		2.29		2.28		2.27		2.26	
ICC-H(MAX) MA	1.920		1.914		1.904		1.895		1.885	
IEE-L(MAX) MA	2.09		2.07		2.06		2.06		2.04	
IEE-H(MAX) MA	2.12		2.11		2.11		2.10		2.09	
* REMARKS: CONTINUATION FROM RECORD 2120.	UATION	FROM	RECORD :	2120.	*END OF PARAMETERS	PARAM	ETERS.			

OF POOR QUALITY	ORI OF	GINAL POOR	Page Quali	15
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GENERIC PART NUMBER	MBER	FUNCTION	N	:	TECH	TECHNOLOGY		R	REF.NO.	RECORD
4N24		OPTICAL ISOLATOR	. ISOL	TOR	BIPC	BIPOLAR		1	1028	5300
MANUFACTURER	:	PART NUMBER	JMBER		SPEC	SPECIFICATION	NOI	DA	DATA SOURCE	RCE
TEXAS INSTRUMENTS	T.S	4N24	; ; ; ;	 	,] 	i 	TRW		† † † †
LDC RAD. TYPE		PART OTY.	BIAS							
7744A C0-60	0		PINS:	PINS: 3@25V; 5,1 VIA 10K TD GND; 7@1.0V; 2@GND	5.1 VI	IA 10K	TO GND	701.0)V; 2@G	ND.
CUM. DOSE (RADS):			¥	100K	30	300K	ŭ	SOOK		750K
PARAMETERS	MEAN	SO	MEAN	SO	MEAN	SS	MEAN	SD	MEAN	S
IR	16.39	16.39 13.73	17.92	13.69	17.65	14.07	16.97	13.43	16.84	14.08
IC(OFF) NA	7.340	7.340 4.987	167.3	157.9	2,260	1, 194	190.0		186.3	
	18.55	4.065	15.13	•••	11.83	2.319	10.59	CV	9.890	_
VF MV	1168.	3.743	1170.	3.479	1171.	3.542	1170.	3,598	1169.	-
(SAT)	153.2	20.37	152.9	15.94	168,2	17.35	176.8	18.88	185.2	19.69
HFE	1381.	368.5	1094.	284.5	854.5	235.3	797.9	222.1	759.7	199.1

GENERI	GENERIC PART NUMBER		FUNCTION	NO		TECH	TECHNOLOGY		æ	. NO.	REF.NO. RECORD
4N24	 	 	OPTICAL	OPTICAL ISOLATOR	TOR	BIP	BIPOLAR	 	2	1028	5301
MANUFACTÜRER	CTÜRER		PART NUMBER	UMBER		SPE	SPECIFICATION	ION	DA	DATA SOURCE	JRCE
11	! ! ! ! !	!	4N24	 	 	<u>.</u>	! ! ! !	! ! !	; } !	i i i i	; ; ; ;
rpc	RAD. TYPE		PART OTY.	BIAS							
7744A	09-00	10	[]]	! ! ! !	 	; [] []]	† 	! ! ! ! !	 - - 	! !	7 1 1 1
CUM. DO	CUM.DOSE(RADS):	•	:	ţ.	100K	Ř	300K	20	500K	• -	750K
PARAMETERS	rers	MEAN	SD	MEAN SD	SO	MEAN	SD	MEAN		MEAN	1
TR	SD SI	4.06 .7338	7338	3.85	3.85 .6546	3.42	3.42 .5075	4.51	4.51 1.418	6.76	6.76 2.988
L	ŝ	5.00	-	0	20.0	2.7	007	70.2			0.

REMARKS: CONTINUED FROM RECORD 5300.

***************************************	PAGE A-166
*	
***********	GENERIC PART NUMBER: 4001

NUMBER SPECIFICATION DATA SOU NUMBER SPECIFICATION DATA SOU NUMK. 5K 10K 64.2 32.4 10.0 105.0 105.0 10.0 105.0 100.0 64.2 32.4 NUMBER SPECIFICATION DATA SOU NUMBER SPECIFICATION DATA SOU NUMBER SPECIFICATION DATA SOU NUMK. 5K 10K 30K MEAN SD MEAN SD MEAN SD MEAN 10.0 10.0 10.0 10.00 4.62 32.4 81AS UNK. 64.2 32.4 81AS UNK. 64.2 30.4 10.0 10.0 10.0 10.00 4.62 1.81 10.0 10.0 10.0 10.00 4.68 4.68 2.91 FAIL 10.0 68.4 69.6	GENERIC PART NUMBER	JMBER FUNCTION	NOI	TECHNOLOGY		REF.NO.	RECORD
RAD. TYPE PART GTV. BIAS CG-60 A UNK. DDSE(RADS): O 5K WITERS WA 10.0 NS 57.9 ACTURER RAD. TYPE PART GTV. BIAS CG-60 A UNK. O 5K O 5K O 5K O 5K O 64.2 O 70.0 O 70.	4001		2-INPUT NOR	CMOS		l I	2390
RAD. TYPE PART GTY. BIAS CO-60 4 UNK. DOSE(RADS): 0 5K 10K WITTERS MEAN SD MEAN SD MEAN SD NA 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.	MANIEACTRIDED	Tava		LACTATOROS	NO.	DATA CO.	<u> </u>
RAD. TYPE PART GTY. BIAS CG-60							
RAD. TYPE PART QTY. BIAS CO-60 A UNK. DOSE(RADS): 0	ACA.	C0400	22 2			IRT CORP	
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NS 64.4 69.6		68.8	68.4	46.9			
	27.0	64.4	9.69	29.6			

GENERIC PART NUMBER	UMBER	FUNCTION	NO	*	TECF	TECHNOLOGY	i	RE	REF. NO.	RECORD
4007		DUAL C	DUAL COMPLEM PR+INV	PR+INV	COS/	COS/MOS		1	1019	5190
MANUFACTURER		PART NUMBER	UMBER		SPEC	SPECIFICATION	NO	DA1	DATA SOURCE	RCE
RCA	 	CD4007A	A	: ! ! ! !	i ! !	F 	; 	TRE	3	
LDC RAD. TYPE		PART OTY.	BIAS	1					:	
7818 C0-60	. ស !	f ! ! ! !	VDD=7V	1KHZ	SQ WAV	/E (0-7V	VDD=7V; 1KHZ SQ WAVE (0-7V, 50% DUTY CYC) @ PIN 10	UTYC	VC) @	PIN 10
CUM. DOSE (RADS):	••	o	ĕ	60K	5	150K	200K	¥	.	300K
PARAMETERS	MEAN	SS	MEAN	SD	MEAN	SD	!	SO	MEAN	SO
IL(VS=5V) NA	0.017	0.010	0.281	0.095	153.5	153.5 77.43	665.0 257.3	57.3	1672.	539.5
IL(VS=7V) NA	0.026	0.016	0.299	0.100	156.0		621.7 2	225.1	1728.	594.0
IL (VS= 10V) NA	0.043			0.108	171.0			243.4	1905.	680.5
VTHN(1) V	1.634	0.012	0.961	0.052	0.461			0.059	0.269	0.053
VTHP(1) V	-1.72	0.075	-2.26	0.078	-2.69 0.081	0.081	-2.91 0,094	.094	-3.26	0.00
VIL(2) V	3.619	0.055	-	0.210	2.569	2.569 0.078	2.427 0.094	.094	2.250	2.250 0.085
VIH(2) V	3.619	3.619 0.055	3.047 0.208	2,208	2.579 0.081	0.081	2.433 0.096	960.	2.267	2.267 0.084
REMARKS: PARAMS. CONT. ON REC. 5191. (1)VS=7V, ID=10UA. (2)AV.(2PR.+INV),VS=7V	S. CONT	ON RE	C. 5191) (E)	5=7V, 1	(D=10UA)	(2)AV.	(2PR.	tINV).	VS=7V.

GENERIC PART NUMBER	_	ION	TECHNOLOGY	REF.NO. RECORD	RECORD
4007		DUAL COMPLEM PR+INV	COS/MOS	1019	5191
MANUFACTÜRER	PART	PART NUMBER	SPECIFICATION	DATA SOURCE	RCE
RCA	. •	7.A			
LDC RAD. TYPE	RAD. TYPE PART QTY. BIAS	BIAS	BIAS	F 1 4 3 1	

CUM. DOSE (RADS)				60K	¥	150K	7	200K	<u>ب</u>	300K
PARAMETERS	MEAN SD	S	MEAN			SD		SD	MEAN SD	SD
TTLH(VS=7) NS		1.7	30.0	1.6	37.8	2.6	40.7	.5		4.2
TTHL(VS=7) NS	28		26	4.4	25.5	1.0	26	0.0		1.3
TPLH(VS=7) NS	20.3		23.5	1.29	28.0	1.63	31.0	2.65		3.10
TPHL(VS=7) NS	24.5		20.8	96.0	20.3	0.50	20.3	0.58		0.50
VNML(3) V	3.619	_	3.043	0.210	2.569	2.569 0.078	2.428	0.094	2.250 0.085	0.085
VNWH(3)	3.374		3.971	0.178	4.420	0.083	4.560	0.097		0.083

REMARKS: CONT. FROM REC. 5190. (3)AV. (2PR.+INV.), VS=7V.

*CONTINUED ON RECORD 5202

REMARKS: CONTINUED FROM REC. 5200; (1)VS=7V.

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GENERI	GENERIC PART NUMBER	MBER	FUNCTION	Z.		TEC	TECHNOLOGY	•	RE	F.NO.	REF.NO. RECORD
4011	 	! ! !	QUAD NAND GATE	AND GA		'soo	cos/wos	1 	9	1020	5200
MANUFA	MANUFACTURER		PART NUMBER	UMBER		SPE	SPECIFICATION	NOI	DA	DATA SOURCE	IRCE
RCA	 	 	CD4011A		 	! !	; ; ; ; ;	 	TRM	TR.	
LDC	RAD. TYPE	E PAR	PART QTY.	BIAS							
7824	09-00		 	VDD=7/	VDD=7V; 1KHZ SQ WAVE (O-7V, 50% DUTY CYC) @ PIN 10	SQ WA	VE (0-7	'V, 50%	DUTY C	ф (ЭХ;	PIN 10
CUM. DO	CUM. DOSE(RADS):		0		50K	¥	100K	Ä	200K	e,	300K
PARAMETERS	TERS	MEAN SD	SD	MEAN	SD	MEAN	S	MEAN	S	MEAN	SD
IL(VS=5V)	5V) PA	21	2	53	10	150	20	1510	201	•	702
VOL(1)		29.3	29.3 0.75	29.5	29.2 0.63	29.9	29.9 0.74	30.6	30.6 1.76		0.80
VOH(±)	≥	6.850	6.850 0.006	6.842	0.007	6.839	6.839 0.007	6.830	0.001		90.00
VTEN()(2) ^	1.613	0.023	1.364	0.026	1.227	0.033	1.037	0.018		0.956 0.012
VTHP(1)(2))(2) v	-1.88	-1.88 0.036	-2.15	-2.15 0.301	-2.29	-2.29 0.038	-2.52	-2.52 0.033		-2.71 0.034
IL(VS=	7V) PA	29	4	61	4	177	22	1580	205		507
IL(VS=	IL(VS=10V) PA	37	9	77	13	223	28	17 10	246		0 445
DENADV	DEMADYS: CONTINUED ON DECODO 6004 (4) VS=7V (0) TD-40HA	140 031	DECODE	1008	(+)WC=	77 (5	104-014	×.			

GENERI(GENERIC PART NUMBER	WBER	FUNCTION	NO		TEC	TECHNOLOGY		RE	REF.NO.	
4011		 	QUAD N	QUAD NAND GATE		, cos,	COS/MOS	; ! ! !	9	1020	5201
MANUFACTURER	CTURER		PART NUMBER	UMBER		SPE	SPECIFICATION	ION	DA	DATA SOURCE	RCE
RCA	• · · · · · · · · · · · · · · · · · · ·	1 1 1	CD4011A		! ! ! !	i ! !	; ; ; ; ;	i 	! ! ! !	; ; ; ;	;
LDC	RAD. TYPE		PART OTY.	BIAS	1	; ;			1		
CUM. DOS	CUM. DOSE(RADS):			· ·	50K	¥	- 00 <u>r</u>	ั	200K	6)	300K
PARAMETERS	rers	MEAN	So	MEAN	QS	MEAN	as	MEAN	SD	MEAN	SD
VIL(1)	>	3.358	0.027	3.096	0.030		0.031		0.030	2.656	0.029
VIH(1)		3.372		3.114	3,114 0,026		2.984 0.033	2.788		2.676	0.029
THE	SZ	37	2.28	37	2.28		1.87	37	1.92	38	
TPLH(1		22.4	1.140	24.6	1.342		1.342		2.450	29.5	0.837
TPHL(1	>	24.6	1.140	24.2	1.096		0.894		23.2 0.837	23.8	0.837
*											

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GENERIC PART NUMBER	NUMBER	FUNCTION	NO		TEC	FECHNOLUSY		R	REF.NO.	_
4011		QUAD N	QUAD NAND GATE	9	C0S/	COS/MOS	1 	[2 .	1020	5202
MANUFACTURER		PART NUMBER	UMBER		SPE	SPECIFICATION	ION	DA	DATA SOURCE	JRCE
RCA	f t t t	CD4011A	A	F 		! ! ! ! ! ! ! ! ! ! ! ! ! ! ! ! ! ! ! !	! ! ! ! !	: !		
LDC RAD. TYPE		PART OTY.	BIAS		; ; ;	1	 	† ! !	!	1
CUM.DOSE(RADS):	ä	0		50K	5	100K	50	200K		300K
PARAMETERS	MEAN	SO	MEAN	SD	MEAN SD	SO	MEAN SD	SD	MEAN	WEAN SD
* VNML(1) V VNMH(1) V	3.329	3.329 0.027 3.478 0.029		3.067 0.030 3.728 0.023	2.936 3.855	0.031	2.936 0.031 2.743 0.030 2.623 0.029 3.855 0.031 4.042 0.024 4.150 0.024	0.030	2.623	9 0.029

REMARKS: *CONTINUED FROM RECORD 5201. (1)VS=7V.

GENER1	GENERIC PART NUMBER	MBER	FUNCTION	NO		TEC	TECHNOLOGY			REF.NO. RECORD	RECORD
40115] - - -	8 BIT	8 BIT INTERFACE	VCE	CMOS	S	! ! !		49	2250
MANUF	MANUFACTURER	 	PART A	PART NUMBER		SPE	SPECIFICATION	LION		DATA SOURCE	IRCE
RCA			CD40115	ı.	; ; ; ; ;	!		1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	. — !	IRT CORP	
LDC	RAD. TYPE		PART OTY.	BIAS							
UNK.	09-00	† 	4	CINK	 ! !	# 	; t t t	: ! ! !	! !	 	i ! !
CUM. DC	CUM.DOSE(RADS):		0		ž,		* ¥				
PARAMETERS	ETERS	MEAN	SD	MEAN	S	MEAN	SD	MEAN	SD	MEAN	SD
IDO	WA	3.53		4.310	 - - 	9.110	1 1 1 1	1 1 1 1	! !		
3 8	¥ S	2.05		17.35		0.920					
10L	¥ X	17.08		17.33		18.86					
	¥ E	0.00		0		2					

REMARKS:

GENERIC PART NUMBER	FUNCTION	FUNCTION TECHNOLOGY REF NO BECORD	REF. NO. DECODO
4013	DUAL D FLIP-FLOP	CMOS	1-17
MANUFACTURER	PART NUMBER	SPECIFICATION	DATA SOURCE
RCA CORPORATION	CD4013	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	J4b
RAD. TYPE	PART QTY. BIAS		
NONE CO-60	3 UNK.		
CUM.DOSE(RADS):	O 75K	ь Ж	300K 600K
PARAMETERS MEAN	SD MEAN TO	MEAN SD MEAN	SD MEAN SD
DISS1(NA) . 008 DISS2(NA) 137 DVTN(V) 1.54		3.8 .1607 5.4 4.8 .2179 6.2 1.5 .0216 1.45	. 1500 8.2 . 1500 . 2500 10.0 . 1803 . 0303 1.41 . 0333

REMARKS:

GENERIC PART NUMBER	UMBER	FUNCTION	NO		TEC	TECHNOLOGY		2	REF.NO, RECORD	RECORD
4013		DUAL C	DUAL D FLIP FLOP	FLOP	CMDS	S	 	i +	1-18	2310
MANUFACTURER		PART A	PART NUMBER		SPE	SPECIFICATION	NOI	Ž	DATA SOURCE	E CE
RCA CORPORATION		CD4013				; ; ;	1	Jan		
LDC RAD. TYPE		PART OTY.	BIAS							
NONE CO-60		3	CNK.				1		1	
CUM.DOSE(RADS):				75K	Ť	15K	9	300K	ŭ	600K
PARAMETERS	MEAN	S	MEAN	SO	MEAN	SD	MEAN	SD	MEAN	SD
DISS1	207	! ! ! !	2.	.0493	2.2	.3247	3.8	.7286	9.9	1.268
DVTN	1.67		9 9	.0850	2.9 1.55	.3523	4.9	.0332	0.8	1.457
- A	. 33		.5	.0070	1.55	.0068	4.6	010	1.75	.0172

REMARKS

GENERIC PART NUMBER	ш	NO	!- .	TECHNOLOGY	-	RE	F.NO.	REF.NO. RECORD
4013	DUAL F	DUAL FLIP-FLOP		CMOS	1 1 1 1 1 1 1	20		2410
MANUFACTURER	PART	PART NUMBER	σ	SPECIFICATION	LION	DA	DATA SOURCE	IRCE
TEXAS INS	CD4013A	A.	! ! !	; ; ; ; ; ; ; ;	 	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	IRT CORP	
	RAD. TYPE PART OTY.	BIAS						
UNK. C0-60		UNK.	1 1 1 1 1 1	 	 	 - - - - 	; 1 1 1 1	† † 1 E
CUM. DOSE (RADS):	0	10k						
PARAMETERS	MEAN SD	à ·	. —	N SD	MEAN	SD	MEAN	SD
D VOL (Q1) MV D VOL (Q2) MV D VÜH (Q1) MV D VOH (Q2) MV	 	9.895 .9699 4988. 4990. -1.25 .4791 598 .4050	.9699 4990. .4791		 	 	1 t l l	t ; ; ; ;

REMARKS:

GENERIC PART NUMBER		FUNCTION	NO		TECH	TECHNOLOGY	_	Σ.	REF.NO. RECORD	RECOR
4013		UAL FLI	DUAL FLIP-FLOP	JP	CMOS	1	! ! ! !	20	00	2420
MANUFACTURER		ART N	PART NUMBER		SPEC	SPECIFICATION	NOI	۵	DATA SOURCE	RCE
RCA		CD4013B	80	 	 	! ! ! !	; 		IRT CORP	
LDC RAD. TYPE	E PART OTY.	OTY.	BIAS							
UNK. CD-60	i io		C N		! ! ! ! !	i 1 1 1	 	 	; L ! !	1. 1. 1.
CUM.DOSE(RADS):	0	:		Σχ		Ž		30K		
PARAMETERS		SO	MEAN	SD	MEAN	SD	MEAN	SD	MEAN	SD
IDD VA	3.800	1 ' ' ' ' ' ' ' ' ' ' ' ' ' ' ' ' ' ' '	3.880	1 ! ! !	15.80	! ! !	1970.	[]] [! ! ! !	; { !
IIH V	5.80		5.75		5.74	:	FAIL			
	4.40		4.48		4.50		FAIL			
III:	10.0		10.0		0.0		FAIL			
	10.0		10.0		10.0		FAIL			
	117.0		118 0		89.2		FAIL			
TPLH NS	49.8		50.0		52.8		FAIL			
REMARKS:										

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GENERIC PARI NUMBER	MBEK	FUNCTION	NO	1	TECHNO	TECHNOLOGY		- ' ! !	KET.NO.	RECORD
4013		DUAL F	DUAL FLIP-FLOP	<u>a</u> .	CMOS	10		,	50	2430
MANUFACTURER		PART NUMBER	UMBER	. :	SPE	SPECIFICATION	T10N	J	DATA SOURCE	JRCE
NATIONAL	! ! !	CD4013B	8	 		 		. — !	IRT CORP	^
LDC RAD. TYPE		PART QTY.	BIAS							
UNK. C0-60	! ! !	D.	UNK.							- - -
CUM.DOSE(RADS):	0	•		2K	·	10K	e,	30K		
PARAMETERS	MEAN	SD	MEAN	SD	MEAN	SD	MCAN	SD	MEAN	SD
IDD UA	3.86		3.90] 	30.00		6.96			
AIH VIA	5.58		5.62		5.56		FAIL			
VIL	4.64		4.60		4.43		FAIL			
	10.0		10.0		10.0		FAIL			
IIL NA	10.0		10.0		10.0		49000			
	113.0		111.0		112.0					
	0.09		56.0		57.5					
KEMAKKS:										

GENERIC	GENERIC PART NUMBER	BER	FUNCTION	NO		TEC	TECHNOLOGY		RE	REF.NO. RECORD	RECORD
4013	4		DOAL D	DUAL D FLIP-FLOP	FLOP	'S00	COS/MOS		5	1021	5210
MANUFACTURER	URER		PART NUMBER	UMBER		SPE(SPECIFICATION	NOI	DA	DATA SOURCE	SCE
RCA		 	CD4013A	V	 	i i i	 		TRW	75. 26.	
	RAD. TYPE		PART OTY.	BIAS							
7824 C	09-00	i D	t i t	VDD=7	VDD=7V; 1KH2 SQ WAVE (0-7V, 50% DUTY CYC) @ PIN 11	SQ WAY	/E (0-7	V. 50%	DUTY C	YC) @ F	- NI
CUM.DOSE(RADS);	(RADS):	0			50K	+	100K	56	200K	ĕ	300K
PARAMETERS	RS	MEAN	SD	MEAN	SO	MEAN	SD	MEAN	SD	MEAN	SD
IL(VS=5V)	N &	0.035 0,026	0,026	0.092	0.028	0.682	0.682 0.370	27.64	13.03	377.0 301.	301.
_ '	>	6.744	0.010	6.68	0	6.629		6.480	0.037	6.200	
VTHN(1)(2) VTHP(1)(2)	> > (2)	1.769 0.078 -1.92 0.071	0.078	1.477	1.477 0.078 -3.02 0.100	1.548	0.080	1,776 0.080 -4,79 0.14	1.776 0.080 -4.79 0.141	4, 148 -5,45	6. 122 1.682
IL(VS=7V) PA	/) PA (V)	9 9 4	72	118	33	728 1782	373	28880 30940	28880 14320 30940 15350	60800 28438 65700 30768	28438 30768
REMARKS:	REMARKS: PARAMS.	CONTI	CONTINUED ON	REC.	5211.	(1)VS=7V.		(2)ID=10UA.	NA.		

REF.NO. RECORD

TECHNOLOGY

COS/MOS

DUAL D FLIP-FLOP

FUNCTION

GENERIC PART NUMBER

4013

DATA SOURCE

SPECIFICATION

PART NUMBER

MANUFACTURER

RCA

CD4013A

RAD. TYPE PART OTY. BIAS

200

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						•					
CUM.DOSE(RADS):	0		L)	50K	¥	100K	8	200K	ĕ	300K	
PARAMETERS	MEAN	SD	MEAN	SD	MEAN	SD	MEAN	SD	MEAN	SD	
* * * * * * * * * * * * * * * * * * * *	3 272	1	Can		077	7	200	•		440	
>			2.678 0.113		2.468	2.468 0.118	2.242 0.125	0. 125		2.070 0.141	
I) NS	46		9		77	5.48	119	26.10		26.32	
Ξ	25		54		61	5.93	74	3.77		7.42	
Ξ	9/		87		106	12.70	154	9.65	217	217 17.18	
TPHL(1)** NS	97	6.42	86		10	12.12	139	15.01	195	27.16	
REMARKS: *CONTINUED		FROM REC.	. 5210.	(E))VS=7V.	**PARAMS	MS. CONT	o No	REC. 52	5212.	
7.张珠珠珠珠妆妆妆妆妆妆妆妆妆妆妆妆妆妆妆妆妆妆妆妆妆妆妆妆妆妆妆妆妆妆妆妆妆	***	*****	****	*****	***	**	***	***	* * * *	******	*
GENERIC PART NUMBER	3ER	FUNCTION	N.		TECH	TECHNOLOGY	i	8	REF.NO. F	RECORD	
4013) ; !	DUAL D FLIP-FLOP	FLIP-F	LOP	COS/MOS	SOM		₽	1021	5212	
MANUFACTURER		PART NUMBER	JMBER		SPEC	SPECIFICATION	NOI	DA	DATA SOURCE	CE	
RCA	E 	CD4013A	!	; ; ; ; ;		 	 	; !] 	
LDC RAD. TYPE		PART OTY.	BIAS								
	(f ! !	 	 	! ! !	j 1 1 1	1 		! ! !	! !	

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**VS=7V. REMARKS: *CONTINUED FROM RECORD 5211.

6.99 327 131

97 3894 2184 4238

79 5772 2431 4161

6.10 505 104 115

75 6568 2664 4010

6.65 425 101 106

78 6914 3255 3502

TPW(MIN)** NS
FMAX** KHZ
VNML** MV

MEAN SD

S 200X

MEAN

S

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SD

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SD

MEAN

PARAMETERS

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CUM. DOSE (RADS):

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GENERIC FART NUMBER: 4013

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TYPE PART GTV. BIAS NDS): 0	MANUFACTURER		ART NI	JMBER	SPECI	FICAT	NO.	DA		3CE
TYPE PART OTY. BIAS NDS): 0	SCA		D4014/		! ! ! !	; ! ! !	 	E	38	;] ! !
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REF.NO. RECORD

TECHNOLOGY COS/MOS

8-STAGE S SHIFT REG

FUNCTION

GENERIC PART NUMBER

4014

DATA SOURCE

SPECIFICATION

PART NUMBER

MANUFACTURER

BIAS

PART OTY.

RAD. TYPE

LDC

ORIGINAL PAGE IS OF POOR QUALITY

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¥	4928	351	4796	356	4484	27.1	3622	Č i	2478	549
	2913	209	2378	198	2118	181	1828	169	1686	163
VNMT * * MV	3173	173	3570	132	3672	130	3564	160	2978	408
REMARKS: *CONTIN	NUED FR	OM RECI	*CONTINUED FROM RECORD 5221.		**VS=7V.					
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4015		4-STAG	4-STAGE SHIFT REG	REG	CMOS	 		24	24-36	2460
MANUFACTURER		PART NUMBER	JMBER		SPEC	SPECIFICATION	NOI	DA	DATA SOURCE	CE.
NATIONAL	1	CD4015MW	A.	 	COMM	COMMERCIAL	1		ROCKWELL	1
LDC RAD. TYPE	ı	PART GTY	BIAS							
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REMARKS:

GENERIC PART NUMBER: 4015

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GENERI	GENERIC PART NUMBER		FUNCTION	N.		TEC	TE(NOLOGY		72	F.NO.	REF.NO. RECORD	
4015	1 2 1 1 1 1 1 1 1 1		4-STAGE SHIFT REG.	SHIF	r REG.	CMOS		 	24	24-35	2520	
MANUFA	MANUFACTURER		PART NUMBER	JMBER		SPE(SPECIFICATION	NOI	DA	DATA SOURCE	RCE	
NATIONAL	,AL	- - -	CD4015MW	A.	 	COM	COMMERCIAL		80	ROCKWELL		
LDC	RAD. TYPE PART QTY.	PART	0TV.	BIAS								
8011	09-00	1 4	4	VDD=9	/DD=9V=DATA,	ALL O	THER PI	NS TIE	VDD=9V=DATA, ALL OTHER PINS TIED TO GND	Q	 	
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PARAMETERS		MEAN	QS	MEAN	EAN SD	MEAN	S	MEAN	SS	MEAN	SD	
0 VOH	MV UA			-69.3 575.5	-69.3 20.76 575.5 193.8	-378. 1.1E3	-378. 81.07 1.1E3 845.6		ທຕ	-923. 2.2E3	40	

REMARKS:

GENERIC PART NUMBER		FUNCTION	NO		TECH	rechnology		RE		RECORD
4016	! ! !	QUAD B	QUAD BILATERAL SW.	AL SW.	CMOS	1	1 1 1 1	24	24-37	2470
MANUFACTURER	-	PART NUMBER	UMBER		SPE	SPECIFICATION	ION	DA	DATA SOURCE	SCE
NATIONAL	t 	CD4016MW	3	! ; ! ! !	COM	COMMERCIAL	 		ROCKWELL	
-		PART OTY.	BIAS							
7902 CD-60	 	2	VDD=16	ov. 2 s	2 SWITCHES ON	S ON, 2	SWITCH	VDD=10V, 2 SWITCHES ON, 2 SWITCHES OFF	 	; f f ; i
CUM.DOSE(RADS):	0			Ž		20K	.,	30K		SOK
PARAMETERS	MEAN	SD	MEAN		MEAN	SD	MEAN	SD	MEAN	SO
D IDD(ON) NA	 	! ! !	0.040	0.055		0.040 0.055		0.045	i Ci	533.6
_			0.120	0.120 0.045		1.5E3 3.4E3		10.16 14.42		3.7E3
			0.00	0.173		431.4		0.522		
D IL(B-SW) NA			0.500	0.122		1.5E3		83.15		2.8E3
D IL(C-SW) NA			0.040	0.089		598.4		47.52	•	2.7€3
D IL(D-SW) NA			0.00	0.00		4.4E3		0.686	8.0E3	

4016	
NUMBER:	
IC PART	
NERIC	

MANUFACTURER MATIONAL LDC RAD. TYPE PART QTV. BIAS BO39 CO-60 4 VDD=10V, 2 SWITCHES ON, 2 SWITC CUM. DDSE(RADS): 0 10K 20K D LIG(C-SW) NA 0.020 0.000 0.000 0.000 D LIC(C-SW) NA 0.022 0.418 0.437 0.928 0.725 D LIC(C-SW) NA 0.220 0.418 0.437 0.928 0.725 D LIC(C-SW) NA 0.220 0.418 0.437 0.928 0.725 D LIC(C-SW) NA 0.220 0.418 0.437 0.928 0.725 D LIC(C-SW) NA 0.220 0.418 0.437 0.928 0.725 D LIC(C-SW) NA 0.220 0.418 0.437 0.928 0.725 MANUFACTURER FUNCTION TECHNOLOGY 4 -BIT BINARY COUNT CMOS LDC RAD. TYPE PART QTY. BIAS CUM. DOSE(RADS): 0 2.5K 10K PART QTY. BIAS CUM. DOSE(RADS): 0 2.5K 10K PARAMETERS MEAN SD MEAN SD MEAN SD MEAN VOH ** 4PASS 4PASS FUNCTIONALITY 4PASS 4PASS FUND OUTSECRY APASS FUND O	ATION DATA SOURCE 2 SWITCHES OFF 2 SWITCHES OFF 30K MEAN SD MEAN SD 0 0.000 0.000 0 6.66.2 3.559 12 0.260 0.071 12 0.260 0.071 12 0.260 0.071 12 0.260 0.071 12 0.260 0.071 12 0.260 0.071 12 0.260 0.071 12 0.260 0.071 12 0.260 0.071 12 0.260 0.071 13 9.7E3 125.6 AFROUET AEROJET AROJET
10.16MW COMMERCIAL 10K 20K 10K 20K 10K 20K 10K 20K 10K 20K 0.000 0.000 0.000 0.000 0.000 5.7E3 3.8E3 7.0E3 0.000 666.2 0.007 0.005 8.2E3 2.2E3 9.7E3 408.2 285.6 0.027 0.028 0.725 0.007 0.005 8.2E3 2.2E3 9.7E3 408.2 285.6 0.027 0.028 0.725 0.007 0.005 8.2E3 2.2E3 9.7E3 408.2 285.6 0.027 0.028 11 BINARY COUNT CMDS 12 SK 10K 14 BIAS 2.5K 10K 4PASS	# # # # # # # # # # # # # # # # # # #
V. BIAS 10K 20K	30K 30K 5D 0.000 0.0071 1.004 1.25.6
10K 20K 10K 20K 10K 20K 0.000 0.000 0.000 0.000 0.000 5.7E3 3.8E3 7.0E3 0.000 666.2 0.007 0.005 8.2E3 2.2E3 9.7E3 408.2 285.6 0.027 0.042 0.260 0.222 0.418 0.497 0.928 0.725 0.450 0.173 8.2E3 2.2E3 9.7E3 VCTION TECHNOLOGY 31T BINARY COUNT CMOS TOWMBER SPECIFICATION 2.5K 10K APPLICATION CIRCUIT 2.5K 10K APASS 4PASS HES OF 1 2 3 3 5 5 9 8 4 5 5 9 6 1 2 5 6 6 1 2 5 6 6 1 2 5 6 6 1 2 5 6 6 1 2 5 6 6 1 2 5 6 6 1 2 5 6 6 1 2 5 6 6 1 2 5 6 6 1 2 5 6 6 1 2 5 6 6 1 2 5 6 6 1 2 5 6 6 1 2 5 6 6 1 2 5 6 6 1 2 5 6 6 1 2 5 6 1 2 5 6 1 2 5 6 1 2 5 6 1 2 5 6 1 2 5 6 1 2 5 6 1 2 5 6 1 2 5 6 1 2 5 6 1 2 5 6 1 2 5 6 1 2 5 6 1 2 5 6 1 2 5 6 1 2 5 6 1 2 5 6 1 2 5 6 1 2 5 6 1 2 5 6 1 2 5 6 1 2 5 6 1 2 5 6 1 2 5 6 1 2 5 6 1 2 5 6 1 2 5 6 1 2 5 6 1 2 5 6 1 2 5 6 1 2 5 6 1 2 5 6 1 2 5 6 1 2 5 6 1 2 5 6 1 2 5 6 1 2 5 6 1 2 5 6 1 2 5 6 1 2 5 6 1 2 5 6 1 2 5 6 1 2 5 6 1 2 5 6 1 2 5 6 1 2 5 6 1 2 5 6 1 2 5 6 1 2 5 6 1 2 5 6 1 2 5 6 1 2 5 6 1 2 5 6 1 2 5 6 1 2 5 6 1 2 5 6 1 2 5 6 1 2 5 6 1 2 5 6 1 2 5 6 1 2 5 6 1 2 5 6 1 2 5 6 1 2 5 6 1 2 5 6 1 2 5 6 1 2 5 6 1 2 5 6 1 2 5 6 1 2 5 6 1 2 5 6 1 2 5 6 1 2 5 6 1 2 5 6 1 2 5 6 1 2 5 6 1 2 5 6 1 2 5 6 1 2 5 6 1 2 5 6 1 2 5 6 1 2 5 6 1 2 5 6 1 2 5 6 1 2 5 6 1 2 5 6 1 2 5 6 1 2 5 6 1 2 5 6 1 2 5 6 1 2 5 6 1 2 5 6 1 2 5 6 1 2 5 6 1 2 5 6 1 2 5 6 1 2 5 6 1 2 5 6 1 2 5 6 1 2 5 6 1 2 5 6 1 2 5 6 1 2 5 6 1 2 5 6 1 2 5 6 1 2 5 6 1 2 5 6 1 2 5 6 1 2 5 6 1 2 5 6 1 2 5 6 1 2 5 6 1 2 5 6 1 2 5 6 1 2 5 6 1 2 5 6 1 2 5 6 1 2 5 6 1 2 5 6 1 2 5 6 1 2 5 6 1 2 5 6 1 2 5 6 1 2 5 6 1 2 5 6 1 2 5 6 1 2 5 6 1 2 5 6 1 2 5 6 1 2 5 6 1 2 5 6 1 2 5 6 1 2 5 6 1 2 5 6 1 2 5 6 1 2 5 6 1 2 5 6 1 2 5 6 1 2 5 6 1 2 5 6 1 2 5 6 1 2 5 6 1 2 5 6 1 2 5 6 1 2 5 6 1 2 5 6 1 2 5 6 1 2 5 6 1 2 5 6 1 2 5 6 1 2 5 6 1 2 5 6 1 2 5 6 1 2 5 6 1 2 5 6 1 2 5 6 1 2 5 6 1 2 5 6 1 2 5 6 1 2 5 6 1 2 5 6 1 2 5 6 1 2 5 6 1 2 5 6 1 2 5 6 1 2 5 6 1 2 5 6 1 2 5 6 1 2 5 6 1 2 5 6 1 2 5 6 1 2 5 6 1 2 5 6 1 2 5 6 1 2 5 6 1 2 5 6 1 2 5 6 1 2 5 6 1 2 5 6 1 2 5 6 1 2 5 6 1 2 5 6 1 2 5 6 1 2 5 6 1 2 5 6 1 2 5 6 1 2 5 6 1 2 5 6 1 2 5 6 1 2 5 6 1 2 5 6 1 2 5 6 1 2 5 6 1 2 5 6 1 2 5 6 1 2 5 6 1 2 5 6 1 2 5 6 1 2 5 6 1 2 5 6 1 2 5 6 1 2 5 6 1 2 5 6 1 2 5 6 1 2 5 6 1 2 5 6 1 2 5 6 1 2 5 6 1 2 5 6 1 2 5 6 1 2 5 6 1 2 5 6 1 2 5 6 1 2 5 6 1 2 5 6 1 2 5 6 1 2 5 6 1 2 5 6 1 2 5 6 1 2 5 6 1 2 5 6 1 2 5 6 1 2 5 6 1 2 5 6 1 2 5 6 1 2 5 6 1 2 5 6 1 2 5 6 1 2 5 6 1 2 5 6 1 2 5 6 1 2 5	
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BIAS APPLICATION CIRCUIT 2.5K 10K MEAN SD MEAN SD 4PASS 4PASS 4PASS 4PASS 4PASS 4PASS 4PASS 4PASS 4PASS 4PASS 4PASS 4PASS 4PASS 4PASS 4PASS 4PASS 4PASS 4PASS 4PASS 4PASS 4PASS 4PASS 4PASS 4PASS 4PASS 4PASS 4PASS 4PASS 4PASS 4PASS 4PASS 4PASS 4PASS 4PASS 4PASS 4PASS 4PASS 4PASS 4PASS 4PASS 4PASS 4PASS 4PASS 4PASS 4PASS 4PASS 4PASS 4PASS 4PASS 4PASS 4PASS 4PASS 4PASS 4PASS 4PASS 4PASS 4PASS 4PASS 4PASS 4PASS 4PASS 4PASS 4PASS 4PASS 4PASS 4PASS 4PASS 4PASS 4PASS 4PASS 4PASS 4PASS 4PASS 4PASS 4PASS 4PASS 4PASS 4PASS 4PASS 4PASS 4PASS 4PASS 4PASS 4PASS 4PASS 4PASS 4PASS 4PASS 4PASS 4PASS 4PASS 4PASS 4PASS 4PASS 4PASS 4PASS 4PASS 4PASS 4PASS 4PASS 4PASS 4PASS 4PASS 4PASS 4PASS 4PASS 4PASS 4PASS 4PASS 4PASS 4PASS 4PASS 4PASS 4PASS 4PASS 4PASS 4PASS 4PASS 4PASS 4PASS 4PASS 4PASS 4PASS 4PASS 4PASS 4PASS 4PASS 4PASS 4PASS 4PASS 4PASS 4PASS 4PASS 4PASS 4PASS 4PASS 4PASS 4PASS 4PASS 4PASS 4PASS 4PASS 4PASS 4PASS 4PASS 4PASS 4PASS 4PASS 4PASS 4PASS 4PASS 4PASS 4PASS 4PASS 4PASS 4PASS 4PASS 4PASS 4PASS 4PASS 4PASS 4PASS 4PASS 4PASS 4PASS 4PASS 4PASS 4PASS 4PASS 4PASS 4PASS 4PASS 4PASS 4PASS 4PASS 4PASS 4PASS 4PASS 4PASS 4PASS 4PASS 4PASS 4PASS 4PASS 4PASS 4PASS 4PASS 4PASS 4PASS 4PASS 4PASS 4PASS 4PASS 4PASS 4PASS 4PASS 4PASS 4PASS 4PASS 4PASS 4PASS 4PASS 4PASS 4PASS 4PASS 4PASS 4PASS 4PASS 4PASS 4PASS 4PASS 4PASS 4PASS 4PASS 4PASS 4PASS 4PASS 4PASS 4PASS 4PASS 4PASS 4PASS 4PASS 4PASS 4PASS 4PASS 4PASS 4PASS 4PASS 4PASS 4PASS 4PASS 4PASS 4PASS 4PASS 4PASS 4PASS 4PASS 4PASS 4PASS 4PASS 4PASS 4PASS 4PASS 4PASS 4PASS 4PASS 4PASS 4PASS 4PASS 4PASS 4PASS 4PASS 4PASS 4PASS 4PASS 4PASS 4PASS 4PASS 4PASS 4PASS 4PASS 4PASS 4PASS 4PASS 4PASS 4PASS 4PASS 4PASS 4PASS 4PASS 4PASS 4PASS 4PASS 4PASS 4PASS 4PASS 4PASS 4PASS 4PASS 4PASS 4PASS 4PASS 4PASS 4PASS 4PASS 4PASS 4PASS 4PASS 4PASS 4PASS 4PASS 4PASS 4PASS 4PASS 4PASS 4PASS 4PASS 4PASS 4PASS 4PASS 4PASS 4PASS 4PASS 4PASS 4PASS 4PASS 4PASS 4PASS 4PASS 4PASS 4PASS 4PASS 4PASS 4PASS 4PASS 4PASS 4PASS 4PASS 4PASS 4PASS 4PASS 4PASS 4PASS 4PASS 4PASS 4PASS 4PASS 4PASS 4PASS 4PASS 4PASS 4PAS	MEAN SD
APPLICATION CIRCUIT 2.5K 10K MEAN SD MEAN SD 4PASS 4PASS 4PASS 4PASS 4PASS 4PASS 4PASS 4FAIL	MEAN SD
MEAN SD MEAN SD APASS 4PASS 4PASS 4FAIL 4FAIL	MEAN SD
MEAN SD MEAN SD 4PASS 4PASS 4PASS 4PASS 4PASS 4PASS 4FAIL	MEAN SD
*FAIL	

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R: 40174	*****
GENERIC PART NUMBER	***

GENERIC PART NUMBER	WBER	FUNCTION.	というない かん	:	TECH	TECHNOLOGY	_	_	REF.NO. RECORD	RECORD
40174	 	HEX &	HEK & FLEPFLOP	Q.	CMOS		 	! ! !	25-21	2670
MANUFACTURER		PART NUMBER	UMBER		SPEC	SPECIFICATION	LION	. -	DATA SOURCE	JRCE
FSC	f 	F40174DM	WQ		; 	 		; ; ;	AEROJET	f
LDC RAD. TYPE		PART OTY.	BIAS							
7547 CD-60		J.	+57.	+5V, 500-KHZ SQUARE-WAVE CLOCK	SQUARE	-WAVE	CLOCK.	i i t	 	#
CUM.DOSE(RANS):		0	1	15.3K						
PARAMETERS	MEAN	SD	MEAN	SD	MEAN	SO	MEAN	S	MEAN	SD
VOH *** 11N 11OH 10CH	5PASS 5PASS 5PASS 5PASS 5PASS		5PASS 5PASS ** 5PASS 5PASS	- "		 	 	i ! ! !		i L t I
IDD QUIESC. A IDD DYNAMIC A REMARKS: ***THL	7E-10 3E-4 TIH PA	7E-10 3E-10 3E-4 1E-5 1EH PASS ALL	*3E-3 9E-3 DOSES	1E-3 4E-3	*SPEC	*SPEC.MAX.=2UA.		10 6	**9 0F 30 FF'S FAIL	S FAIL.

GENERIC PART NUMBER	UMBER	FUNCTION	NO		TECH	TECHNOLOGY		8	F. NO.	REF.NO. RECORD
4019	1 1 1 1	QUAD 2 INPUT MUX	INPUT	MCX	CMOS		! ! ! !	25	25-24	2620
MANUFACTURER		PART NUMBER	UMBER		SPE	SPECIFICATION	Z	DA	DATA SOURCE	URCE
FSC	 	F4019DM	 	 - - - - - - 	i ! !	: : : : : :	i i i	AEI	AEROJET	: ; ; ; ;
LDC RAD. TYPE		PART OTY.	BIAS							
7653 CD-60	 		APPLI	CATION	APPLICATION CIRCUIT			! ! ! !	; ; ;	; ; ; ; ;
CUM.DOSE(RADS):		0	8	2.JK	! .	70 .				
PARAMETERS	MEAN	QS.	MEAN	SD	MEAN	N OS	MEAN	SO	MEAN	SD
FUNCTIONALITY	SPASS		SPASS	! ! !	SFAIL	, , 1 1 1	 	 	! ! !	1 1 1 1
** HQ	SPASS		5PASS		* * *					
VOL	SPASS		SPASS		*FAIL					
NII	SPASS		SPASS		SFAIL					
HO!	SPASS		5PASS		* * *					
IDD QUIESCENT	SPASS		SPASS		* *					
IDD DYNAMIC	SPASS		SPASS		**					
DEMADKS **IOI	I I	THE TEH PASSED ALL DOSES	DAL	DOSES	*SOME	*SOME ***POSS FATE (DATA NOT SPECIF)	FA 71	(DATA	LON	SPECIE

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GENERIC	GENERIC PART NUMBER	BER	FUNCTION	Z	1	TEC	rechnology		RE	REF. NO.	RECORD
4020			14-STA	SE BIN	14-STAGE BIN COUNTR		COS/MOS		Q 	1022A	5230
MANUFACTURER	JRER		PART NUMBER	MBER		SPE	SPECIFICATION	ION	DA	DATA SOURCE	RCE
RCA		! !	CD4020A		 	i - 	 	! ! ! !	TRE	3	! ! ! ! !
	RAD. TYPE		PART OTY.	BIAS							
7824 CC	co-eo	EG.	i. 	VDD=7\	VDD=7V; 1KHZ SQ WAVE (O-7V 50% DUTY CYC) 10 PIN 10	SQ WAY	/E (0-7	V 50% I	OUTY CY	c) 10	PIN 10
CUM.DOSE(RADS):	(RADS):	O		u ,	SOK	¥	100K	56	200K	ED .	300K
PARAMETERS		MEAN	SD	MEAN	S	MEAN	SO	MEAN	SO	MEAN	S
ILA(VS=5V) NA		2.980 5.887	5.887	2000.	4472.	1005.	2233.	407.8	532.4	400.4	245.7
ILA(VS=7V) NA ILA(VS=1OV)NA	,	4.106	1.497 6.457 1.106 6.997	2201. 2401.	4919. 5366.	1025.	2278. 2322.	1076.	2027. 2154.	378.0	234.5
ILB(VS=5V) NA	••	2.741		2000.	4472.	981.1	2191.	403.9	434.9	420.4	250.8
ILB(VS=7)	•	3.197		2200. 4919.	4919.	1001	2235.	784.4	1742.	85.22	
ILB(VS=10	••	3.813		2401.	5366.	1022.	2280.	844.3	1876.	84.72	•
VOL (VS=7)		21.2	21.2 4.33	21.8	4.20	20.7	0.73	22.4		28.1	5.52
REMARKS: PARAME	PARAMETE	ERS CO	NTINCEL	NO C	ETERS CONTINUED ON RECORD 5231	231.					

GENERIC PART NUMBER	C PAR	NON :	BER	FUNCTION	NO		TECH	FECHNOLOGY		<u>~</u>	REF.NO.	RECORD
4020	 	 	; ! !	14-STA	GE BIN	14-STAGE BIN COUNTR	COS/MOS	MOS	; 	-	1022A	5231
MANUFACTURER	ICTURE	~		PART NUMBER	IUMBER		SPEC	SPECIFICATION	NOI	Õ	DATA SOURCE	RCE
RCA] 		! ! !	CD4020A	- 4	 	; ; ;	1 1 1 1	 	; ; ;	; ! ! !	
rpc	RAD.	RAD. TYPE		PART OTY.	BIAS							
	09-00	0	i ! !	! ! ! !	i : i i i :	 	 	} 	; 	! ! ! ! !	; ; ; ;	#
CUM. DOSE(RADS):	SE(RA	. (SQ		0		SOK	01	100K	ă	200K		300K
PARAMETERS	TERS		MEAN	SO	MEAN	SO	MEAN	SD	MEAN	SD	MEAN	S
V0H(1)		! ≩	6582	23	6542	32	6482	1	6376	38	ı	52
C)NHLA	(5)	≥	1814	ဓ	1477	42	1424	50	1556		7880	3546
VTHP((5)	≩:	-2797	69	-3848	204	-4511	ST.	-4789	39	-8765	89
VIL(1)	_	≥	3442	67	2914	48	2676		2410	44	2270	44
VIH(1)	_	≨	3470	73	2954	47	2710	4	2452	52	2316	44
TTLH(1		SS	52.0 2.	2.739	62.0	4.472	68.0	5.701	91.0	91.0 2.236	118.0	8.367
TTHL(1		SZ	45.0	45.0 3.536	46.0	46.0 8.216	20.0	11.73	53.0	4.472	64.0	5.477
REMARKS:	S: CONT	. •	FROM REC.	EC. 5230		1)VS=7V.	(2)10	(2)ID=20UA.	CONT	CONTINUED ON	ON REC.	5232.

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4020	******	
MRFR	****	
PART NI	****	
SENERIC PART NUMBER	******	
_	_	

GENERIC PART NUMBER	C PART	r NUMB		FUNCTION	NO	TECHNOLOGY	REF.ND. RECORD	RECORD
4020	, ; ; ; ;	# # # #		14-STA	14-STAGE BIN COUNTR	cos/mos	1022A	5232
MANUFACTURER 	CTUREF	1	1	PART NUMBER CD4020A	PART NUMBER CD4020A	SPECIFICATION	DATA SOURCE	JRCE
Грс	RAD.	RAD. TYPE PART OTY.	PART	RAD. TYPE PART QTY. BIAS	BIAS	BIAS		

REMARKS: CONTINUATION FROM RECORD 5231. (1)VS=7V.

496.0 25.10 342.0 10.95 90.6 7.92 1520 97

360.0 11.73 267.0 7.583 62.2 2.49 2134 79

265.0 7.071 220.0 33.73 46.2 1.79 3076 102

MEAN SD 222.0 11.51 185.0 20.00 38.8 1.64 3724 135

174.0 6.519 141.0 5.477 35.6 1.67 4462 207

TPLH(1) NS TPHL(1) NS TPW(MIN)(1)NS FMAX(1) KHZ

MEAN SD

PARAMETERS

CUM. DOSE (RADS):

SD

MEAN

S 200K

MEAN

MEAN

GENERIC PART NUMBER	MBER	FUNCTION	N		TECH	TECHNOLÓGY		RE	0	RECORD
4027	 	DUAL U	DUAL U-K FLIP-FLOP	-FL0P	CMOS	 	! ! ! ! !	+	1-19	2320
MANUFACTURER		PART NUMBER	UMBER		SPEC	SPECIFICATION	NOI	DA	DATA SOURCE	RCE
RCA CORPORATION	 	CD4027	1 1 1 1 1	i 	! ! ! !	 		JPL	JPL	
LDC RAD. TYPE		PART OTY.	BIAS			-			! !	1
7936 C0-60	! ! !	1 1 1 1 1 1 1 1	UNK.	i] 					
CUM.DOSE(RADS):					· !	 		,	! ! !	; ; ;
PARAMETERS	MEAN	SD	MEAN	SD	MEAN	SO	MEAN	SD	MEAN	S
DISS1	.237	! ! !	1.35	. 1859	2.7	.2971	5.2		Ξ.	2.104
DISS2	. 286		4.4	.3149	5.9	.2058	6.4	.8483	C	3.305
DVTN	1.44		1.35	.0365	e	.0139	1,25		1.25	.0202
DVTP	1.84		4.4	.6109	1,42	.6862	1.45		9.	748

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REMARKS:

GENERIC PART NUMBER: 4027

REF.NO. RECORD

TECHNOLOGY

FUNCTION

GENERIC PART NUMBER

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	1004	1			٤		308/300	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1			1 0 5 0 5	
	4027			DUAL UR	E E	171	CO3/ MO3		<u> </u>	S	3240	
	MANUFACTURER	CTURER		PART NU	NUMBER		SPECIFICATION	TION	DATA	TA SOURCE	ICE	
	RCA			CD4027A	-				TRW	•		
	סניו	RAD. TYPE	PE PART	F QTY.	BIAS							
	7819	09-00	9	 	VDD=7V;	1KHZ	SQ WAVE (O-	(0-7V, 50% DUTY	UTY CYC)	C) TO PIN	IN 3.	
	CUM. DOS	CUM. DOSE (RADS)		•		50K	100K	20	200K	30	300K	
	PARAMETERS	TERS	MEAN	SD	MEAN	SD	MEAN SD	MEAN	SD	MEAN	SO	
	11 (VS=5V)	1	0 105	9000	164	0.041	4 100 1 639	207.3	205.5	832.0	142.5	
	IL(VS=7V)		0.136	0.025		0.026		29.80	16.88		328.8	
	IL(VS=10V VOL(1)	00. M	0.177	0.038		0.064 0.238	1.740 0.219 15.68 0.194	28.80 16.59	19.18 0.211		81.05 0.599	
	VOH(1)	VM (C)	6817	നധ	6790	1 0		6725	10	6677	17	
		0	-1709 NUED ON	RECO	-2477 5241.	S	-2980 55 =7V. (2)ID=	, 5	79	-4076	9 G	
*	****	****	* * * *	****	* * * *	****	****	***	****	***	****	* * *
	GENERIC	PART	NUMBER	FUNCTION	N.	.1	TECHNOLOGY	<u>}</u>	REF	.NO.	RECOKD	
	4027	[! 1 1 1 1	DUAL JK	MS	FLIPFLOP	COS/MOS		1023	73	L IS	
	MANUFACTURER	STURER		PART NUMBER	JMBER		SPECIFICATION	TION	DATA	TA SOURCE	SCE.	
	RCA	1	} 	CD4027A		! ! ! !	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	, , , , ,	i !	 	 	
	LDC	RAD. TYPE	PE PART	r orv.	BIAS		•					
						 			! !	1 1 1		
	CUM. DO	CUM.DOSE(RADS)		0		50K	100K	52	200K	36	300K	
	PARAMETERS	TERS	MEAN	SD	MEAN		N	MEAN	į.	MEAN	SD	
	VIH(1)) W	3558	1	3140	29	1		43	2524	42	
	TTLH(1	SN (44.0	2.8	48.4	2.966	7	69	0.894	82.0	2.739	
	THE	SN	54.6	2.967	58.8	5.215	66.4 1.673	94.0	8.216	166.0	38.31	
	TPHC (1)		105.2	4 m	107.6	2.966	- ო	160.0	7.906	244.0	17.82	
	TPW(MIN	E E	106	2.5	116	7.8	129 2.2	179	15.0	286 1768	41.1	
	REMARKS		CONTINUATION	FROM RE	RECORD 5	5240. (` .≥	N		ON RECORD 52	2	
	4	4		4	1		4 4 4 4 7 7		4 4 4	1	4 4 4 4 4	1 1 1

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GENERIC	GENERIC PART NUMBER		FUNCTION			•	rechind LOGY		RE	F. NO.	REF.NO. RECORD
4027	; ; ; ; ; ; ;	<u> </u>	DUAL UK M	S	LIPFLOP	COS/MOS	MOS	 2 1 1 1	P	1023	5242
MANUFACTURER	URER	-	PART NUMBER	UKBER		SPEC	SPECIFICATION	NOI	DA	DATA SOURCE	RCE
RCA	; ; ; ; ;	!	CD4027A	A	 	! ! ! ! ! ! ! ! ! ! ! ! ! ! ! ! ! ! ! !	6 6 7 8 8 8 8	! 6 ! !	1	! ! ! !	1
LDC	RAD. TYPE	PART	PART OTY.	BIAS		1 1 1 1 1	1 1 1 1]]] ! !	; ; ;	1	1 1 1
				٠							
CUM.DOSE(RADS):	(RADS):	0		ED.	50K	9	100K	50	200K	e	300K
PARAMETERS	RS	MEAN	SD	MEAN SD	SD	MEAN SD	SD	MEAN SD	S	MEAN	MEAN SD
VNML *	<u>≥</u> ≥		22		32	2896 3858	33	2635	6.4 1.4	2506	·

4028 GATE CMDS 51 244C MANUFACTURER PART NUMBER SPECIFICATION DATA SOURCE RCA CD4028B IRT CORP LDC RAD. TYPE PART QTY. BIAS LDC RAD. TYPE PART QTY. BIAS LDC RAD. TYPE PART QTY. BIAS LDC SAD. TYPE PART QTY. BIAS CUM. DOSE(RADS): O 5K 10K 30K CUM. DOSE(RADS): O 5K 10K 30K PARAMETERS MEAN SD MEAN SD VIH V 5.21 4.95 FAIL* VII V 4.93 4.84 4.58 VII NA 70.0	GENERI	GENERIC PART NUMBER		FUNCTION	NO		TECH	TECHNOLOGY	i	~	REF.NO. RECORD	RECORD
AD. TYPE PART OTV. BIAS D-60 5 UNK. RADS): 0 5K 10K 30K RADS MEAN SD MEAN SD MEAN SD MEAN V 5.72 5.21 4.95 FAIL* V 4.93 4.84 4.58 FAIL* V 4.93 4.84 4.58 FAIL* V 4.93 77.3 73.3 73.9 FAIL* NA 10.0 10.0 10.0 10.0 NS FAIL* NS 77.3 77.3 73.9 FAIL* NS 67.0 55.4 55.8 FAIL*	4028	1 1 1 1 1 1 1		GATE	; ; ; ;	† - - - - -	CMOS	{ ! ! ! !	† 	. D	T .	2440
AD. TYPE PART GTV. BIAS D-60 5 UNK. RADS): 0 5K 10K 30K RS MEAN SD MEAN SD MEAN SD MEAN UA 10000 10000 10000 367 V 5.72 5.21 4.95 FAIL* V 4.93 4.84 4.58 FAIL* NA 10.0 10.0 10.0 10.0 NA 10.0 10.0 10.0 10.0 NS 77.3 77.3 73.9 FAIL* NS 67.0 55.4 55.8 FAIL*	MANUFA	CTURER		PART N	UMBER		SPEC	IFICAT	NOI	20	ATA SOU	RCE
AD. TYPE PART GTV. BIAS D-60 5 UNK. (RADS): 0 5K 10K 30K RS MEAN SD MEAN SD MEAN SD MEAN UA 10000 10000 10000 367 V 5.72 5.21 4.95 FAIL* V 4.93 4.84 4.58 FAIL* NA 10.0 10.0 10.0 10.0 NS 77.3 77.3 73.9 FAIL* NS 67.0 55.4 55.8 FAIL*	RCA	1 	1 1 1	CD4028		1 1 1 1	! ! !	f 	 	i A.	T CORP	! ! ! !
Carlo Same	LDC	RAD. TYPE		OTV.	BIAS							
RS MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEA	CNK	09-00	- - - - 	i i	N N	 	! ! ! !	 	; ! ! !	 	† 	;
NEAN SD MEAN S	CUM. DO	SE(RADS):	.O.			ŭ,		¥	1	30 30	·	. 1
UA 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 1000 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.	PARAME	TERS	MEAN	SO	MEAN	SD	MEAN	SD	MEAN	SD	MEAN	SO
V 5.72 5.21 4.95 V 4.93 4.84 4.58 NA 10.0 10.0 10.0 NA 70.0 10.0 10.0 NS 77.3 77.3 NS 67.0 55.4 55.8	100	NA	10000) - -	10000		10000		367			
NA 10.0 10.0 10.0 NA 71.3 73.9 NS 67.0 55.4 55.8	VIH	>	5.72		5.21		4.95		FAIL*			
NA 10.0 10.0 10.0 NA 10.0 10.0 NS 77.3 77.3 73.9 NS 67.0 55.4 55.8	VIL	>	4.93		4.84		4.58		FAIL*			
NA 10.0 10.0 10.0 NS 77.3 73.9 NS 67.0 55.4 55.8	IIH		10.0		0.01		10.0		10.0			
NS 77.3 77.3 73.9 NS 67.0 55.4 55.8	IIL		0.0		0.01		0.01		10.0			
NS 67.0 55.4 55.8	TPHL		77.3		77.3		73.9		FAIL*			
	TPLH		67.0		55.4		55.8		FAIL			

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GENERIC PART NUMBER	FUNCT ION		TECHN	TECHNOLOGY		RE	F.NO.	REF.NO. RECORD
4029	UP/DOWN COUNTER	OUNTER	CMDS	! ! ! ! !		24	24-39	2490
MANUFACTURER	PART NUMBER	<u>د</u>	SPECI	SPECIFICATION	8	DA	DATA SOURCE	JRCE
NATIONAL	CD4029BMW	! ! ! ! ! !	COMMERC	COMMERCIAL	! ! !	. 02 	ROCKWELL	
LDC RAD. TYPE PAST QTY.		BIAS		:				
•	4 VD	VDD=IN1=IN2=U/D=B/D=PE=5V, REST TIED TO GND	:U/D=B/D=	PE=5V,	REST	TIED T	QND 0	! ! ! !
CUM.DOSE(RADS):	0	10K	20K	¥	.,	30K		
PARAMETERS MEAN	SD	MEAN SD	ļ.	S	MEAN	20	MEAN	SD
D IDD VA	40	103.7 18.72	3.2E3 8	87.03	7.4E3	163.7		f J f I
D VOH(P-2) MV	6	-31.5 3.307	-287.		-665.	90.79		
D VOH(P-6) MV	(P)	-39.4 2.601	-384	4.83		0.177		
_	7	5.8 1.024			- 148	10.87		
	ö	750 0.100	5.725 0.320		9.8E3	9 238		
D VOL(P-11)MV	Ö	525 0.050			300.4	55.31		
D VOL(P-14)MV	0	0.650 0.100	5.850 0		82.35	31.69		
REMARKS:								

MANUFACTURER PART NUMBER SPECIFICATION DATA SOURCE	GENER	GENERIC PART NUMBER	WBER	FUNCTION	NO		TECH	FECHNOL DGY		RE	REF.NO.	RECORD
CTURER PART NUMBER SPECIFICATION DATA SOUR RAD. TYPE PART QTY. BIAS CO-60 4 VDD=IN1=IN2=U/D=B/D=PE=5V, REST TIED TO GND SE(RADS): 0 10K 20K 30K E TERS MEAN SD MEAN SD MEAN SD MEAN SD MEAN VA 0.082 0.072 0.060 0.120 0.092 0.026 0.097 P-2) MV 0.082 0.072 0.060 0.120 0.000 0.000475 P-7) MV 0.000 0.115255 0.050160 0.082550 P-11)MV 0.075 0.050225 0.050160 0.000550 P-11)MV 0.000 0.141275 0.126150 0.100550	4029			UP/DOW	N COUN	TER	CMD		! ! ! !	24	-40	2500
RAD. TYPE PART QTY. BIAS CO-60 4 VDD=IN1=IN2=U/D=B/D=PE=5V, REST TIED TO GND SE(RADS): 0 10K 20K 30K E TERS MEAN SD MEAN SD MEAN SD MEAN SD MEAN VA 0.082 0.072 0.060 0.120 0.092 0.026 0.097 P-2) MV 0.082 0.072 0.060 0.120 0.000 0.000475 P-7) MV 0.050 0.105 0.105 0.100 0.0082550 P-11) MV 0.075 0.050225 0.050160 0.082550 P-11) MV 0.000 0.141275 0.126150 0.100550	MANUF	ACTURER		PART N	IUMBER		SPE	CIFICAT	ION	DA	TA SOL	RCE
GO 4 VDD=IN1=IN2=U/D=B/D=PE=5V, REST TIED TO GND ADS): 0 10K 20K 30K E MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN WV 0.082 0.072 0.060 0.120 0.092 0.026 0.097 WV 0.050 0.100 0.175 0.126 0.000 0.000 0.000 0.475 WV 0.075 0.050 0.141275 0.126150 0.100 0.550)WV 0.075 0.050225 0.050160 0.082550)WV 0.075 0.050225 0.050150 0.100 0.082	R.C.A		1 f t 1	CD4028	BWK	! ! ! !	COM	WERCIAL	! ! !	80	CKWELL	
ADS): 0 10K 20K 30K EST TIED TO GND ADS): 0 10K 20K 30K EST TIED TO GND COORD OF THE COORD OF TO GND COORD OF TO GND COORD OF TO GND COORD OF TO GND COORD OF TO GND COORD OF TO GND COORD OF TO GND COORD OF TO GND COORD OF TO GND COORD OF TO GND COORD OF TO GND COORD OF TO GND COORD OF TO GND COORD OF TO GND COORD OF TO GND COORD OF TO GND COORD OF TO GND COORD OF TO GND COORD OF TO GND COORD OF TO GND COORD OF TO GND COORD OF TO GND COORD OF TO GND COORD OF TO GND COORD OF TO GND COORD OF TO GND COORD OF TO GND COORD OF TO GND COORD OF TO GND COORD OF TO GND COORD OF TO GND COORD OF TO GND COORD OF TO GND COORD OF TO GND COORD OF TO GND COORD OF TO GND COORD OF TO GND COORD OF TO GND COORD OF TO GND COORD OF TO GND COORD OF TO GND COORD OF TO GND COORD OF TO GND COORD OF TO GND COORD OF TO GND COORD OF TO GND COORD OF TO GND COORD OF TO GND COORD OF TO GND COORD OF TO GND COORD OF TO GND COORD OF TO GND COORD OF TO GND COORD OF TO GND COORD OF TO GND COORD OF TO GND COORD OF TO GND COORD OF TO GND COORD OF TO GND COORD OF TO GND COORD OF TO GND COORD OF TO GND COORD OF TO GND COORD OF TO GND COORD OF TO GND COORD OF TO GND COORD OF TO GND COORD OF TO GND COORD OF TO GND COORD OF TO GND COORD OF TO GND COORD OF TO GND COORD OF TO GND COORD OF TO GND COORD OF TO GND COORD OF TO GND COORD OF TO GND COORD OF TO GND COORD OF TO GND COORD OF TO GND COORD OF TO GND COORD OF TO GND COORD OF TO GND COORD OF TO GND COORD OF TO GND COORD OF TO GND COORD OF TO GND COORD OF TO GND COORD OF TO GND COORD OF TO GND COORD OF TO GND COORD OF TO GND COORD OF TO GND COORD OF TO GND COORD OF TO GND COORD OF TO GND COORD OF TO GND COORD OF TO GND COORD OF TO GND COORD OF TO GND COORD OF TO GND COORD OF TO GND COORD OF TO GND COORD OF TO GND COORD OF TO GND COORD OF TO GND COORD OF TO GND COORD OF TO GND COORD OF TO GND COORD OF TO GND COORD OF TO GND COORD OF TO GND COORD OF TO GND COORD OF TO GND COORD OF TO GND COORD OF TO GND COORD OF TO GND COORD OF TO GND COORD OF TO GND COORD OF TO GND COORD OF TO GND COORD OF TO GND COORD OF	rpc	RAD. TYPI		F QTV.	BIAS							
MV 0.075 0.050 0.125 0.050 0.126 0.050 0.050 0.0141 0.225 0.126 0.126 0.082 0.075 0.050 0.120 0.000 0.000 0.550 0.100 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.	7924	09-00	! ! !	4	VDD=11	V1=IN2=	1/B=Q/N)=PE=5V	, REST	TIED I	O GND	! ! ! !
WEAN SD MEAN SD MEAN MEA	CUM. DC	SE(RADS):		~		10K		20K		30K		50K
VA 0.082 0.072 0.060 0.120 0.092 0.026 0.097 0.097 0.096 0.097 0.096 0.097 0.096 0.097 0.096 0.097 0.096 0.097 0.096 0.097 0.096 0.097 0.097 0.096 0.097 0.096 0.097 0.097 0.097 0.090 0.100 0.090 0.090 0.090 0.090 0.090 0.090 0.090 0.090 0.090 0.090 0.090 0.090 0.090 0.090 0.090 0.090 0.090 0.090 0.090 0.090 0.090 0.090 0.090 0.090 0.090 0.090 0.090 0.090 0.090 0.090 0.090 0.090 0.090 0.090 0.090 0.090 0.090 0.090 0.090 0.090 0.090 0.090 0.090 0.090 0.090 0.090 0.090 0.090 0.090 0.090 0.090 0.090 0.090 0.090 0.090 0.090 0.090 0.090 0.090 0.090 0.090 0.090 0.090 0.090 0.090 0.090 0.090 0.090 0.090 0.090 0.090 0.090 0.090 0.090 0.090 0.090 0.090 0.090 0.090 0.090 0.090 0.090 0.090 0.090 0.090 0.090 0.090 0.090 0.090 0.090 0.090 0.090 0.090 0.090 0.090 0.090 0.090 0.090 0.090 0.090 0.090 0.090 0.090 0.090 0.090 0.090 0.090 0.090 0.090 0.090 0.090 0.090 0.090 0.090 0.090 0.090 0.090 0.090 0.090 0.090 0.090 0.090 0.090 0.090 0.090 0.090 0.090 0.090 0.090 0.090 0.090 0.090 0.090 0.090 0.090 0.090 0.090 0.090 0.090 0.090 0.090 0.090 0.090 0.090 0.090 0.090 0.090 0.090 0.090 0.090 0.090 0.090 0.090 0.090 0.090 0.090 0.090 0.090 0.090 0.090 0.090 0.090 0.090 0.090 0.090 0.090 0.090 0.090 0.090 0.090 0.090 0.090 0.090 0.090 0.090 0.090 0.090 0.090 0.090 0.090 0.090 0.090 0.090 0.090 0.090 0.090 0.090 0.090 0.090 0.090 0.090 0.090 0.090 0.090 0.090 0.090 0.090 0.090 0.090 0.090 0.090 0.090 0.090 0.090 0.090 0.090 0.090 0.090 0.090 0.090 0.090 0.090 0.090 0.090 0.090 0.090 0.090 0.090 0.090 0.090 0.090 0.090 0.090 0.090 0.090 0.090 0.090 0.090 0.090 0.090 0.090 0.090 0.090 0.090 0.090 0.090 0.090 0.090 0.090 0.090 0.090 0.090 0.090 0.090 0.090 0.090 0.090 0.090 0.090 0.090 0.090 0.090 0.090 0.090 0.090 0.090 0.090 0.090 0.090 0.090 0.090 0.090 0.090 0.090 0.090 0.090 0.090 0.090 0.090 0.090 0.090 0.090 0.090 0.090 0.090 0.090 0.090 0.090 0.090 0.090 0.090 0.090 0.090 0.090 0.090 0.090 0.090 0.090 0.090 0.090 0.090 0.090 0.090 0.090 0.090 0.090 0.090 0.090 0.090 0.090 0.090 0.090 0.090 0.090 0.090 0.090 0.090 0.090 0.090 0.0	PARAME	TERS	MEAN	SD	MEAN	S	MEAN	SO	MEAN	SO	MEAN	SD
MV 0.100 0.200325 0.126075 0.096425 MV 0.050 0.100175 0.150 0.000 0.000550 MV 0.100 0.115250 0.100 0.000 0.000475 MV025 0.050275 0.050150 0.082550 MV 0.000 0.141275 0.126150 0.100 0.082550 MV 0.000 0.141275 0.126150 0.100550	0 100			! !	0.082	0.072		0.120		0.026		0.115
MV 0.050 0.100175 0.150 0.000 0.000500 MV 0.100 0.115250 0.100 0.000 0.000475 MV025 0.050275 0.050150 0.058550 MV 0.075 0.050225 0.050100 0.082500 MV 0.000 0.141275 0.126150 0.100550	D VOH				0.100	0.200		0.126		0.096		5 0.126
MV 0.100 0.115250 0.100 0.000 0.000475 MV025 0.050275 0.050150 0.058550)MV 0.075 0.050225 0.050100 0.082500)MV 0.000 0.141275 0.126150 0.100550	D VOH				0.050	0.100		0.150		0.000		0.082
MV025 0.050275 0.050150 0.058550 MV 0.075 0.050225 0.050100 0.082500 MV 0.000 0.141275 0.126150 0.100550	HOA O				9.10	0.115		0.100		0.000		0.050
)MV 0.075 0.050225 0.050100 0.082500)MV 0.000 0.141275 0.126150 0.100550	D VOL (025	0.050	'		150	0.058	•	0.058
0.000 0.141275 0.126150 0.100	D VOL	$\overline{}$			0.075	0.020	- 225		- 10	0.082	•	500 0.000
	D VOL	P-14)MV			000	0.141	275		150	0.100	•	0.100

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GENER	GENERIC PART NUMBER		FUNCTION	No.		TEC	TECHNOLOGY		2	EF.NO.	REF.NO. RECORD
4029			WP/DOW	UP/DOWN COUNTER	TER	CMDS		; i l l	7	24-41	2510
MANUFACT	MANUFACTURER		PART NUMBER	UMBER		SPE	SPECIFICATION	NOI	۵	DATA SOURCE	JRCE
NATIONAL	JAI.		CD4029BMW	BM	 	CO	COMMERCIAL	! ! !	1 6 2	ROCKWELL	
CDC	RAD. TYPE		PART OTY.	BIAS							
8040	09-00	4	; ; ;	VDD=11		n/0=B/I	VDD=IN1=IN2=U/D=B/D=PE=5V.	REST	TIED	REST TIED TO GND	6 9 6 1 1
CUM. DC	CUM. DOSE (RADS):	0			Σ	,	Ď.		15K		20K
PARAMETERS		MEAN	SO	MEAN	SO	MEAN	S	MEAN	SD	MEAN	SD
D VOH(P-6 D VOH(P-6 D VOH(P-7 D VOH(P-7 D VOH(P-7 D VOH(P-1 D VOH(P-1 REMARKS:	1DD UA VOH(P-2) MV VOH(P-6) MV VOH(P-7) MV VOL(P-7) MV VOL(P-11) MV VOL(P-14) MV		! ! !	1.000 1.300 1.325 1.325 1.400 1.425		2.38 2.38 2.38 2.38 2.38 3.38 3.38 3.38	5.53 7.629 -5.83 7.598 -2.80 3.350 150 0.100 150 0.058	255.7 -20.8 -20.2 -7.63 025 0.100	410.1 33.82 33.37 11.95 0.618 0.938	748.5 -67.9 -67.9 -20.4 -20.4 -20.5 -20.5 -20.5 -20.5 -20.5 -20.5 -20.5 -20.5 -20.5 -20.5 -20.5 -20.5 -20.5 -20.5 -20.5 -20.5 -20.5 -20.5 -20.5 -20.5 -20.5 -20.5 -20.5 -20.5 -20.5 -20.5 -20.5 -20.5 -20.5 -20.5 -20.5 -20.5 -20.5 -20.5 -20.5 -20.5 -20.5 -20.5 -20.5 -20.5 -20.5 -20.5 -20.5 -20.5 -20.5 -20.5 -20.5 -20.5 -20.5 -20.5 -20.5 -20.5 -20.5 -20.5 -20.5 -20.5 -20.5 -20.5 -20.5 -20.5 -20.5 -20.5 -20.5 -20.5 -20.5 -20.5 -20.5 -20.5 -20.5 -20.5 -20.5 -20.5 -20.5 -20.5 -20.5 -20.5 -20.5 -20.5 -20.5 -20.5 -20.5 -20.5 -20.5 -20.5 -20.5 -20.5 -20.5 -20.5 -20.5 -20.5 -20.5 -20.5 -20.5 -20.5 -20.5 -20.5 -20.5 -20.5 -20.5 -20.5 -20.5 -20.5 -20.5 -20.5 -20.5 -20.5 -20.5 -20.5 -20.5 -20.5 -20.5 -20.5 -20.5 -20.5 -20.5 -20.5 -20.5 -20.5 -20.5 -20.5 -20.5 -20.5 -20.5 -20.5 -20.5 -20.5 -20.5 -20.5 -20.5 -20.5 -20.5 -20.5 -20.5 -20.5 -20.5 -20.5 -20.5 -20.5 -20.5 -20.5 -20.5 -20.5 -20.5 -20.5 -20.5 -20.5 -20.5 -20.5 -20.5 -20.5 -20.5 -20.5 -20.5 -20.5 -20.5 -20.5 -20.5 -20.5 -20.5 -20.5 -20.5 -20.5 -20.5 -20.5 -20.5 -20.5 -20.5 -20.5 -20.5 -20.5 -20.5 -20.5 -20.5 -20.5 -20.5 -20.5 -20.5 -20.5 -20.5 -20.5 -20.5 -20.5 -20.5 -20.5 -20.5 -20.5 -20.5 -20.5 -20.5 -20.5 -20.5 -20.5 -20.5 -20.5 -20.5 -20.5 -20.5 -20.5 -20.5 -20.5 -20.5 -20.5 -20.5 -20.5 -20.5 -20.5 -20.5 -20.5 -20.5 -20.5 -20.5 -20.5 -20.5 -20.5 -20.5 -20.5 -20.5 -20.5 -20.5 -20.5 -20.5 -20.5 -20.5 -20.5 -20.5 -20.5 -20.5 -20.5 -20.5 -20.5 -20.5 -20.5 -20.5 -20.5 -20.5 -20.5 -20.5 -20.5 -20.5 -20.5 -20.5 -20.5 -20.5 -20.5 -20.5 -20.5 -20.5 -20.5 -20.5 -20.5 -20.5 -20.5 -20.5 -20.5 -20.5 -20.5 -20.5 -20.5 -20.5 -20.5 -20.5 -20.5 -20.5 -20.5 -20.5 -20.5 -20.5 -20.5 -20.5 -20.5 -20.5 -20.5 -20.5 -20.5 -20.5 -20.5 -20.5 -20.5 -20.5 -20.5 -20.5 -20.5 -20.5 -20.5 -20.5 -20.5 -20.5 -20.5 -20.5 -20.5 -20.5 -20.5 -20.5 -20.5 -20.5 -20.5 -20.5 -20.5 -20.5 -20.5 -20.5 -20.5 -20.5 -20.5 -20.5 -20.5 -20.5 -20.5 -20.5 -20.5 -20.5 -20.5 -20.5 -20.5 -20.5 -20.5 -20.5 -20.5 -20.5 -20.5 -20.5 -20.5 -20.5 -20.5 -20.5 -20.5 -20.5 -20.5 -20.5 -20.5 -20.5 -20.5 -20.5 -20.5 -20.5 -20.5	2 2.254

	GENERIC PARI NUMBER	FUNCTION I	2		THICK THICK	FCHNOLOGY	>	ax ·	EF.NO.	REF.NO. RECORD
4031B	9	4 BIT	64 BIT SHIFT REG	REG	CMDS		! ! !	1 4	401-9	2860
MANUFACTURER	۵	ART N	PART NUMBER		SPEC	SPECIFICATION	LION		DATA SOURCE	IRCE
RCA		CD4031B	E E	; ; ; ;	INSAT	INSAT PCC 860	860	LL	FORD AEROSPACE	OSPACI
LDC RAD. TYPE	PART OTY	0TY .	BIAS							
7914 CD-60	G	t 1 1	VDD=+18V	187	! ! !	! ! !	 	} } !	! 	ĵ ! !
CUM.DOSE(RADS):	¢		u ,	53K	•					
PARAMETERS	MEAN	SD	MEAN	SD	MEAN	SD	MEAN	SD	MEAN	So
IDDD NA NA NO NA NA NA NA NA NA NA NA NA NA NA NA NA		; ; ;	13.09 7.428 5.000 12.49 -2.66 5.000	13.09 7.499 7.428 1.426 5.000 0.0 12.49 3.840 -2.66 .1531 5.000 0.0	 	1 1 1 1 1	1 1 4 1	; 	 	! ! !

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GENERI	GENERIC PART NUMBER	NUME		FUNCTION	NO		TECH	FECHNOLOGY	• 1	R	REF.NO.	RECORD
4035] 	4-STG F	PI/P0 S	4-STG PI/PO SHFTREG	COS/MOS	MOS		 	1024	5250
MANUFA	MANUFACTURER	. ~	_	PART NUMBER	UMBER		SPEC	SPECIFICATION	ION	DA	DATA SOU	SDURCE
RCA	; ; ; ; ;	, ! ! !	!	CD4035A		† 		! ! ! !	 	TRE.	3) † ! !
rpc	RAD.	TYPE	PART	PART OTY.	BIAS							
7824	09-00		E GO	1 1 1 1	VDD=7V		! ! ! !	 	1 1 1 1 1 1	 		
CUM. DO	CUM. DOSE (RADS)	. (so	0	i	י מ	50K	9	100K	50	200K	(C)	300K
PARAMETERS	TERS	• 🗻	MEAN	SD	MEAN	S	MEAN	S	MEAN	SD	MEAN	SO
IL(VS=5V)	5V) F	Ϋ́	15	၈	198	67	780	320	4630	2729	19050	30657
IL (VS=	7V) F	Ϋ́	50	13	212	70	822	330	4810	2833	19380	31010
IL(VS=10V	10V) F	Αc	34	16	239	67	932	367	5300	3068	20830	32538
VOL(1)	2	M V	22.3	1.7	21.8	0.	22.6	-	27.7	1.2	26,5	E
VOH(1)	2	₹	6716	16	6104	6	6694	20	6889	46	6675	25
VTHN(1)(2) N	. >₹	1535	8	1326	29	1257	0	1213	149	134	358
VTHP(1	_	<u>-</u>	-2470	27	-2689	77	-2863	88	-3053	164	-3259	293
REMARK	REMARKS: CONTINUED ON	TINUE		RECORD	5251.	(1)VS=7.		(2)ID=20UA	UA.			

GENERIC PART NUMBER	UMBER	FUNCTION	No		TECH	rechnolos:		RE	REF.NO. RECORD	ECORD
4035	 	4-STG	4-STG PI/PO SHFTREG	HFTREG	,	COS/MOS	! ! X	10	1024	5251
MANUFACTURER		PART NUMBER	UMBER		SPEC	SPECIFICATION	NOI	DA	DATA SOURCE	CE.
RCA	! ! ! !	CD4035A] 	! ! !	1 1 1 3 1	1	; 	! ! !
LDC RAD. TYPE		PART OTY.	BIAS							
09-00	; ; ; ;		1 1 1 1 1] 	! - - - - - -	!	; { } } }	[]]] !	[]]]]	†
CUM.DOSE(RADS):		^		50K	₽	100K	50	200K	36	300K
PARAMETERS	MEAN	SD	MEAN	SD	MEAN	SD	MEAN	SD	MEAN	SD
	3184	50	3032	57	3036	49	3132	43	3172	118
-	43	m	46	4	48	(C)	55	က	26	7
	44	N 1	44	(2)	48	က	ည -	Ċ (57	e i
TPH(1) NS	125	ט ט	131		140 140	<u>5</u>	152	φ Ç	171	- 17 25
(L)(NI	9	0	58	· m	6	. 0	92	ဖ	74	±
FMAX(1) KHZ	5754 NIATTON	222 FDOM D	222 5480 29 FDOW DECORD 5250	292	5188	4	4 4640		4064	401
	207 - 202	EOK	ביטאט פ	£30.	7-02(1)				טוע אבינטאט טעטע	. 75

GENERIC PART NUMBER: 4035	
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GENERIC PART NUMBER FUNCTION	FUNCTION	TECHNOLOGY	REF.ND. RECORD	RECORD	
4035	4-STG PI/PO SHFTREG	COS/MOS	1024	5252	
MANUFACTURER	PART NUMBER	SPECIFICATION	DATA SOURCE	IRCE	
RCA	CD4035A			1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	
LDC RAD. TYPE PART QTY.					
CD-60		,	1		

300K

200K

100 X

50K

CUM. DOSE (RADS):

MEAN

MEAN

MEAN

MEAN

O

PARAMETERS

3146 3503

3107

3013

3010

3162 3460

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VNML*

REMARKS: CONTINUATION FROM RECORD 5251, *VS=7V,

GENERIC PART NUMBER			TECHNOLOGY	>	REF.NO. RECORD	RECORD
4044	OCIAD NAND	QUAD NAND R/S LATCH	CMDS	 	52	2450
MANUFACTURER	PART I	PART NUMBER	SPECIFICATION	TION	DATA SOURCE	URCE
MOTOROLA	MC&044	4			IRT CORP	
LDC RAD. TYPE	_	BIAS				
UNK. C0-60	UNK	UNK.	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	 	 	! ! !
CUM. DOSE (RADS):	0	350K				
PARAMETERS	1 .	SD	MEAN SD	MEAN SD	MEAN	SO
D V(OUT) V	† 	0.034	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		1	1 1 1 1

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REMARKS:

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GENERIC PART NUMBER	FUNCTION	ND	1	TECHN	rechnology	1	ž	REF.NO.	REF.NO. RECORD
	M/P Pt	M/P PHASE-LOCKED/L		CMOS	-		53		2260
MANUFACTURER	PART NUMBER	IUMBER		SPECI	SPECIFICATION	NO	0	DATA SOURCE	JRCE
R.C.A.	CD4046B		! ! ! ! !	! ! ! !	! ! !	! 		IRT CORP	
RAD. TYPE		BIAS							
UNK. CD-60	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	UNK.	† 	; ; ; ;	; ; ;] 	; ; ; ; ;	1 1 1	; ; ; ;
CUM. DOSE(RADS):	0	ָּמוּ		¥		63	30K		
PARAMETERS MEAN	N SD	ļ	SD	·	SD	MEAN	SD	MEAN	EAN SD
UA 84.0	8	93.00	! !	112.0	!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!	4 1620	; ! !		L
V 5.482	82	5.277	-	5.360		5.490			
> >	38	5.25		5, 12		FAI			
• 4N	3 8	4 C		2 . 6 5 . 0 5 . 0		FAIL			
NA 10.0	88	0.00		9.0		FAIL			
	.	182.5		168.4		FAIL			
ARKS:									

GENERIC PART NUMBER		FUNCTION	NO.		TEC	TECHNOLOGY	_	œ	REF.NO. RECORD	RECORE
4049	; Y	EX IN	HEX INVERTING BUFF	BUFF	CMDS		i ! ! ! !	י פיז	54	2270
MANUFACTURER	4	ART N	PART NUMBER		SPE(SPECIFICATION	LION		DATA SOURCE	RCE
R.C.A.		CD4049UB	UB	! ! !	!	! ! !	, 	!	IRT CORP	
LDC RAD. TYPE	E PART OTY.	7.	BIAS							
UNK. CD-60	S	 	UNK		: ! ! !	i ! ! !	; 	! ! !	, 1 1 1 1	; ; t
CUM. DOSE (RADS):	0			5K		10K		30K		
PARAMETERS		SD	MEAN	SD	MEAN	S	MEAN	SD	MEAN	S
IDD NA	10.00		10.00	 	45.00	 	25000			
	8.5		7.35		7.26		FAIL			
VIL V	÷.5		8.00		00.42		FAIL			
	10.00		00.00		10.00		FAIL			
	10.00		6.00		10.00		FAIL			
TPHL NS	17.30		15.10		14.70		FAIL			
	21.20		20.10		20.70		FAIL			
REMARKS										

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GENERIC PART NUMBER	MBER	FUNCTION	NO.	:	TEC	FECHNOLOGY	_	æ	REF.NO.	RECORD
4049	 	HEXIL	HEX INVERTING BUFF	BUFF	CMOS	S	; 1 1 1 1 1		54	2280
MANUFACTURER		PART N	PART NUMBER		SPE	SPECIFICATION	NOI	۵	DATA SOURCE	RCE
NATIONAL	 	CD4049UB	aue	; 	!	; { { {	i 	; 	IRT CORP	! ! ! ! !
LDC RAD. TYPE		PART OTY.	BIAS							
UNK. CD-60	! ! !	ស	CNK.	! ! ! ! !	† † † †	 	Í ! ! ! !	† 1 1 1 1	1 E 1 1 1	†
CUM. DOSE (RADS):	0			S X		10K		30K		
PARAMETERS	MEAN	Зũ	MEAN	SO	MEAN	SD	MEAN	GS.	MEAN	SD
IDD	10.0	 	10.0	! ! ! !	1640.	1 1 1 1	26MA	1 1 1. 1.	! ! !	! ! !
AIH V	8.45		7.25		7.10		FAIL			
VIL	1.54		1.26		00.65		FAIL			
	10.00		10.00		5.00		FAIL			
III	10.00		0.00		10.00		FAIL			
	19.10		16.10		15,70		FAIL			
	21.30		20.80		21.00		FAIL			
REMARKS										

GENERIC PART NUMBER	NUME		FUNCTION	NO		TECH	rechnology		RE		ECOR
4049	; ; ;	 ! !	HEX/BU	HEX/BUFFER CONVERT	ONVERT	CMOS	1	; ; ; ; ; ;	-	1-20	2330
MANUFACTURER		-	PART NUMBER	UMBER		SPEC	SPECIFICATION	NOI	DA	DATA SOURCE	CE
RCA CORPORATION	NOI	- - - -	CD4049	 	 	i i i	 		JPL JPL	JPL.	
	RAD. TYPE		PART OTY.	BIAS							
NONE CD-60		 		UNK.	 	; ; ; ; ;	! ! ! !	! 	1 1 1 1 1	1 1 1 1 1	;
CUM.DOSE(RADS):	. (50	0			75K	+	15K	30	300K	9	600K
PARAMETERS	•	MEAN	SD	MEAN	S	MEAN	SD	MEAN	SD	MEAN	SD
! ! !	¦ ¥	.0233	 - -	e,		1.49	•	3.4		6.1	3.700
1552 N	NA N	.0257		-	.7522	2.1	•	3.45		6.1	3,593
VTN(V)	>	1.05		÷	.0566	96	•	.92	.0618	.88	9690
VTP(V)	>	1.28		1.35	.0712	1.36	•	4.4	.0741	1.48	0910

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GENERIC PART NUMBER	NUMB		FUNCT I ON	Z		TECH	TECHNOLOGY		REI	F.NO.	REF.NO. RECORD
4051] 	. w	CHANNEL	JEE. MUX	8 CHANNEL MUX DEMUX	CMDS	CMOS	 	25.	25-30	2560
MANUFACTURER			PART NUMBER	JMBER		SPEC	SPECIFICATION	NOI	DAT	DATA SOURCE	IRCE
FSC	 	. <u> </u>	F4051DM	-	:	1	 	 	AEF	AEROJET	! ! ! !
	TYPE	PART	RAD. TYPE PART OTY, BIAS	BIAS							
7722 CD-60	l - - 			V+=5V,	V+=5V, TYPICAL APPLICATION CIRCUIT	L APPL	ICATIO	N CIRCU	11		! ! ! !
CUM.DOSE(RADS):	: (\$	0		•	12K		1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 -		ı		
PARAMETERS	Σ	MEAN	SOS	MEAN		MEAN	So	MEAN	SD	MEAN	SD
IDD UA	!	918	122	54400 20452	20452	 	 	 	- - - - 	! ! !	

REMARKS: ALL DEVICES NONOPERABLE AFTER 12K RAD, DUE TO EXCESSIVE IDD (DYNAMIC).

GENERIC	GENERIC PART NUMBER	ABER.	FUNC: ION	NOI	,	TECH	rechnologY	<u>≻</u>	REF	EF.NO.	REF.NO. RECORD	
4051		 	8 CHA	8 CHANNEL MUX DEMUX	DEMU	CMOS	1		25-	25-29	2630	
MANUFACTURER	TURER		PART	PART NUMBER		SPEC	SPECIFICATION	TION	DAT	DATA SOURCE	JRCE	
RCA	; ; ; ; ; ;	 	CD405	CD4051BD/XZ	; ; ;	; ; ;	; 	! ! ! ! !	AER	AEROJET	t t t	
Трс	RAD. TYPE		PART OTY.	BIAS								
7719	09-00	<u> </u>	D.	V+=5V,	TYPI(AL APPL	ICATI	V+=5V, TYPICAL APPLICATION CIRCUIT	111	i. I. I.	 	
CUM. DOS	CUM.DOSE(RADS):		•	**	.X	, ,	50K	16	160K		350K	
PARAMETERS	ERS	MEAN	SC	MEAN	SD	MEAN	SD	MEAN	SD	MEAN	SD	
0,		SPASS	i i	5PASS		SPASS		SPASS	 	SPASS	0	
1		5PASS		SPASS		SPASS		SPASS		5PASS	.0	
NII		SPASS		SPASS		SPASS		SPASS		SPASS	۰,۵	
	QUIESCENT	SPASS		SPASS		SPASS		*		•		
NAG GGI	DYNAMIC	SPASS		SPASS		SPASS		SPASS		SPASS	ιń	
1		5PASS		SPASS		SPASS		SPASS		SPASS	.0	
4.		SPASS		SPASS		SPASS		SPASS		SPASS	10	
. KS	* * * KS: *2 FAILED IDD AND	ED 190	AND	FUNCTIONALLY:	ALLY:	INCORRE	ECTLY	INCORRECTLY DECODED CHANNEL TO TURN ON	CHANNEL	. t	LURN ON	

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GENERIC PART	1
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GENERIC PART NUMBER	MBER	FUNCTION	NO.		TEC	TECHNOLOGY		RE	REF.NO.	RECORD	
4052		ANALOG	ANALOG MUX/DEMUX	EMUX	CMDS	S		1-21	1-21	2340	
MANUFACTURER		PART NUMBER	UMBER		SPE	SPECIFICATION	NOI	Ā	DATA SOURCE	<u> </u>	
RCA CORPORATION		CD4052		 	1	1 1 1	+	JPL			
LDC RAD. TYPE		PART QTY.	BIAS								
O	 	e	CNK.	1	; ; ; ;				!	 	
CUM. DOSE(RADS);				75K		15K	300E	¥	· φ	600K	
PARAMETERS	MEAN	SD	MEAN	SD	MEAN	SD	MEAN	SD	MEAN	S	
DISS1 DISS2 DVTN(V) DVTP(V)	. 272 . 366 1.81 1.80		2.45 3. 1.7 1.9	.4652 .5260 .0762	4.4 5. 1.65 1.95	.7489 .8736 .0713	7.2 1 8. 1 1.61 .0	1,090 1,224 .0663	14. 1.60 2.1	1.721 1.801 .0676	

REMARKS:

GENERIC PART NUMBER		FUNCTION		TECHNOLOGY	.0GY	R	REF. NO.	RECORD
4052	AN	ANALOG MAX/DEMUX	EMUX	CMOS	 		1-22	2350
MANUFACTURER	PAR	PART NUMBER		SPECIFICATION	CATION	PA	DATA SOURCE	ii.
RCA CORPORATION	1 1 1 1	CD4052] 	1		JAP		
LDC RAD. TYPE	E PART OTY.	w						
NONE CO-60		UNK.		 		1		1
CUM. DOSE(RADS):	0		75K	15K	300K	¥	9	600K
PARAMETERS	MEAN SD	MEAN	S	MEAN SD	MEAN	SD	MEAN	So
DISS1 DISS2	.0318	0.6	.6413	4.8 .916	1	.264	12.5	
NTVQ QTVQ	1.80 1.80	1.71	.0465	1.95 .0367	52 1.65 .0427 57 2 .0429	. 395 0427 0429	13. 1.62	1.922 .0453

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REMARKS:

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GENER	GENERIC PART NUMBER	ABER	FUNCTION	NOI] 	TECHN	TECHNOLOGY		R	REF.NO. R	RECORD
4066	-	·	QUAD	QUAD BILATERAL SW	IL SW.	CMOS	:		 	1-23	2360
MANUF	MANUFACTURER		PART	PART NUMBER		SPEC	SPECIFICATION	ION	DA	DATA SOURCE	SCE.
RCA CI	RCA CORPORATION	; !	CD4066	9	 	:	 	 	JPL	٠	
r DC	RAD. TYPE		PART OTY.	BIAS							
NONE	09-03		6	S .] 	 	 	, ; ; ; ;	[! ! !
CUM. D	CUM.DOSE(RADS):	_	0		75K	- 1	15K	30	300K	9	600K
PARAMETERS	ETERS	MEAN	SD	MEAN	SD	MEAN	S	MEAN	SD	MEAN	SO
DISSI		. 197		1.25	.0252	2.8	.0624	5.2	. 2804	9.6	
DISS2		. 227		1.7	.1411	3.4	. 2930	6.2	.3969	-	
DVTN(V)	~	1.65		1.55	.0040	_	.0067	1.45	.0150	4.4	.0173
DVTP(٠, څ	1.56		1.65	.0232	1.7	.0251	1.75	.0218	1.9	.0208

REMARKS:

GENERIC PART NUMBER	T NUM	BER	FUNCTION	NO		TECH	TECHNOLOGY		œ	REF.NO. RECORD	ECORE
4066			QUAD SWITCH	WITCH		CMOS		! ! : ! !		25-32	2570
MANUFACTURER	œ		PART NUMBER	UMBER		SPEC	SPECIFICATION	Z	۵	DATA SOURCE	CE
RCA		* - -	CD4066BD	80	 	# # # #	 - - - - -	; ! !	¥	AEROJET	i t t
	RAD. TYPE		PART OTY.	BIAS							
7804 C0-60	0	 	10°	UNK.	 	! ! ! ! ! !	; ! ! !	! : : !	i ! !	; ; ;	! ! ! !
CUM. DOSE(RADS):	DS):	0	1	.2	2.5K	-	Š				
PARAMETERS	·	MEAN	SO	MEAN	SD	MEAN	SD	MEAN	SO	MEAN	SD
0,	!	SPASS		SPASS	; ; ; ; ;	5PASS	, 	! ! .	 	1 1 1 1	! ! !
1 I .		SPASS		SPASS		SPASS *					
IDD QUIESCENT		SPASS		5PASS		*					
IDD DYNAMIC		SPASS		SPASS		SPASS					
Į		SPASS		SPASS		SPASS					
TLH		SPASS		SPASS		SPASS					
REMARKS: *5FAIL: MEAN=2.0UA	FAIL:	MEAN=	2.0UA.	MAX=3.0UA.	OUA.	**5FAIL:	MEAN=3, 9UA, MAX=6, OUA,	9UA.	MAX=6	OUA.	

SENER I	SENERIC PART NUMBER		FUNCTION	Z		TEC	TECHNOLOGY		REF	N	REF.NO. RECORD	
4069		l !	HEX INVERTER	VERTER	(; t	CMOS		 	80	080	2850	
MANUFACTURER	CTURER		PART NUMBER	JMBER		SPEC	SPECIFICATION	NOI	DATA	DATA SOURCE	JRCE	
RCA			406GUB	1 5 1 1 1	 	MIL	MIL-M-38510/1	MIL-M-38510/174 A2	!		i f	
LDC	RAD. TYPE PART OTY.	PART	. 0TV	BIAS			:	. !				
8095	09-00		1 1 1 1 1 1	100	1] ! !	 	 	 - - - - - -				
CUM. DO	CUM. DOSE(RADS):	, 0		100K	100K				!		,	
PARAMETERS	TERS	MEAN	S	MEAN	SD	MEAN	SD	MEAN	SO	MEAN	S	
DVNTH	>>	r I I	f 	. 4600	.03							

REMARKS: LDC = (METAL) EVAPORATION RUN

GENERIC PART NUMBER	IUMBER	FUNCTION	NO		TECH	TECHNOLOGY		~	REF.ND. RECORD	RECORD
4070	! ! ! ! ! ! ! ! ! ! ! ! ! ! ! ! ! ! ! !	QUAD XOR	OR	 	CMOS		 		25-26	2640
MANUFACTURER		PART NUMBER	UMBER		SPEC	SPECIFICATION	NOI	à	DATA SOURCE	RCE
FSC	f 	F4070DM	.	; ; ; ;	! ! ! !	; 		¥	AEROJET	
		PART OTY.	BIAS						j	1
7651 C0-60	i 1 1	L	APPL IC	APPLICATION CIRCUIT	IRCUIT				÷	
CUM.DOSE(RADS):		0	a	2.5K	•	Ş				
PARAMETERS	MEAN	SO	MEAN	SD	MEAN	SD	MEAN	SD	MEAN	SS
** HOA	SPASS		*FAIL		*FAIL] 				
VOL	SPASS		SPASS		*FAIL					
OH LA	SPASS		SPASS		SPASS					
IDD QUIESCENT			SFAIL		SFAIL					
IDD DYNAMIC			SPASS		5PASS					
ZII	SPASS		*FAIL		SFAIL					
					1					

2660 RECORD

25-25

REF.NO.

TECHNOLDGY

FUNCTION QUAD XOR

GENERIC PART NUMBER

4070

CMOS

DATA SOURCE

SPECIFICATION

PART NUMBER

CD4070ED

RCA

MANUFACTURER

AEROJET

2840

DATA SOURCE

SPECIFICATION

REF.NO. RECORD

TECHNOLOGY

CMOS

QUAD EXCLU OR GATE

FUNCTION

GENERIC PART NUMBER

MANUFACTURER

RCA

7933

20

S

MEAN

S

MEAN

S Ş

MEAN

2 2.5K

MEAN

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MEAN

PARAMETERS

* HOA

0

CUM. DOSE (RADS):

BIAS Š Š

PART OTY.

RAD. TYPE

CDC

5

09-00

7810

SPASS

SFAIL SFAIL SFAIL SPAIL SFAIL SFAIL

SFAIL SPASS SPASS SPASS SPASS SPASS

5PASS 5PASS 5PASS 5PASS 5PASS 5PASS

VTHV

IOH SPASS 5P IDD QUIESCENT 5PASS 5P REMARKS: *IOL PASSED ALL DOSES.

SD

MEAN

SD

MEAN

REMARKS: LDC = INSPECTION LOT NO

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GENERIC PART NUMBER	UMBER	ш	NO		TEC	TECHNOLOGY		ťΣ	REF.NO RECORD	RECORD
4071	† (1 (1	QUAD	QUAD 21NPUT OR GATE	IR GATE	CMDS			82	82	2830
MANUFACTURER		PART N	PART NUMBER		SPEC	SPECIFICATION	NOI	۵	DATA SOURCE	RCE
RCA	 	40718	; ! ! !			WIL-M-3851	MIL-M-38510/171A	i ez	RCA) ! ! !
_	PE PAR	ET OTY.	BIAS							
7946 CD-60	: : : :	1	10	1	; ; ;	; ; ; ;	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	 	[1 ! !
CUM.DOSE(RADS):		•	5	100K						
PARAMETERS	MEAN	SO	MEAN	SD	MEAN	SD	MEAN	SD	MEAN	SD
DVPTH V		 	. 43	.02	! ! ! !	 	, f 1 f	! ! ! !	! ! !	! ! !

REMARKS: LDC = INSPECTION LOT NO.

GENER	GENERIC PART NUMBER	MBER	FUNCTION	NO		TECH	TECHNOLOGY		REF.	Q	REF.NO. RECORD
4072			DUAL 4	DUAL 4INPUT OR GATE	R GATE	CMDS			83		2820
MANUFA	MANUFACTURER		PART NUMBER	UMBER		SPEC	SPECIFICATION	NOI	DATA SOURCE	Sou	3CE
RCA		 	4072B	 	1 1 1 1 1 1	MIL.	MIL-M-38510/171A	0/171A	RCA	1	! ! ! !
LDC	RAD. TYPE		PART OTY.	-							
7934	09-00	i t t	11	100	 	! ! !	; ; ; ;] 1 1 1 1 1 1	! ! !	1 1	
CUM.DC	CUM.DOSE(RADS):	. •	0	0	100K						
PARAMETERS	TERS	MEAN SD	S	MEAN SD	SD	MEAN	MEAN SD	1	_	MEAN	SD
DVNTH	>>	1 1 1 1	 	.39	15 5	i i i t	 	! ! ! !		! ! !	; ; ; 1

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NERIC PART NUMBER:	
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GENERIC PART NUMBER	MBER	FUNCTION	NO		TECI	TECHNOLOGY			REF.NO. RECORD	RECORD
4073		TRIPLE 3IN	3IN A	TRIPLE 3IN AND GATE		CMOS		;	84	2810
MANUFACTURER		PART NUMBER	UMBER	1 1 1 1	SPE	SPECIFICATION	ION		DATA SOURCE	JRCE
RCA		4073B			MIL	-M-3851	MIL-M-38510/170A A2 RCA	A2	RCA	!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!
LDC RAD TYPE		PART GTY.	BIAS							
7946 CO-60		! ! !	10t	i ! ! !						-
CUM.DOSE(RADS):	0 !		¥	100K						
PARAMETERS	MEAN	SD	MEAN SD	EAN SD	MEAN	SD	MEAN SD	as	MEAN	QS
DVNTH V OVPTH V			.34	.21		1 1	1 1 1			1

REMARKS: LDC = INSPECTION LOT NO.

GENERIC PART NUMBER		FUNCTION	TECHNOLOGY	REF NO DECODO
4075	TRIP	TRIPLE 3IN OR GATE	CMDS	85 2800
MANUFACTURER	PART	PART NUMBER	SPECIFICATION	DATA SOURCE
RCA	CD40	CD4075BF/B	MIL-M-38510/171A	RCA
LDC RAD. TYPE		_		
	++	UNK.		
CUM. DOSE(RADS):	0	100K		
PARAMETERS	MEAN SD	MEAN SD	MEAN SD MEAN SD	MEAN SD
DVNTH DVPTH	; ; ; ; ; ; ;	. 57 . 15		

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REMARKS: LDC = INSPECTION LOT NO.

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GENERIC	GENERIC PART NUMBER	MBER	FUNCTION	NO		TECH	TECHNOLOGY		44-	REF.NO.	REF.NO. RECORD
4077		- - - -	OUAD EXCLU	QUAD EXCLU NUR GATE	R GATE	CMOS		1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		98	2780
MANUFACTURER	CTURER	! ! !	PART NUMBER	UMBER		SPEC	SPECIFICATION	NOI		DATA SOURCE	URCE
RCA			4077B		! ! ! !	MIL-	IL-M-3851C/	MIL-M-3851C/172A A1	· —	RCA	
LDC	RAD. TYPE PAG	PAR	RT OTY.	BIAS					: :		
6595	09-00	; t t		100	! ! ! !			! ! ! ! !		1	
CUM. DOS	CUM. DOSE(RADS):		0	100K	¥						
PARAMETERS	ERS	MEAN	SD	MEAN	SD	MEAN	So	MEAN	SD	MEAN	SD
DVNTH DVPTH	>>	 	1 # # #	1.62	.052	 		1 1 1			

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GENERIC PART NUMBER	T NU§	BER	FUNCTION	NOI		TEC	TECHNOLOGY		REF.NO. RECORD	RECORD
4077	; ; ;	! !	QUAD EXCL	QUAD EXCLU NOR GATE	JR GATE		CMDS		986	2790
MANUFACTURER	œ	(PART A	PART NUMBER		SPE	SPECIFICATION	NOI	DATA SOURCE	URCE
RCA			40778		1 1 1 1 1	MIL	WIL-M-38510	MIL-M-38510/172A A1	RCA	
LDC RAD.	RAD. TYPE		PART OTY.	BIAS						
	0		16	10	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	1] 		1
CUM. DOSE (RADS):	55):		0	51	100K					
PARAMETERS		MEAN	SO	MEAN SD	SD	MEAN SD	S	MEAN SD	MEAN	SD
DVNTH DVPTH	> >	 	! ! !	. 48	.05		1 1 1 1	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	-	

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	GENERIC PART NUMBER	MBER	FUNCTION	NO		TECH	TECHNOLOGY		RE		RECORD	
	4078	 	3-INPUT	NOR	GATE	CMOS	! ! ! !	! ! !	25	25-27	2650	
	MANUFACTURER		PART NUMBER	UMBER		SPEC	SPECIFICATION	NOI	DA	DATA SOURCE	RCE	
	RCA		CD4078BD	80	; ; ; ; ;	1	! ! !	; . - - 	AE	AEROJET	t 	
	LDC RAD. TYPE		PART OTY.	BIAS								
	7738 C0-60	1	 	UNK			 	i ! !	† - - 	i ! !	1 1 1	
	CUM. DOSE (RADS):		Ó	5	*		40 X	¥	130K		250K	
	PARAMETERS	MEAN	S	MEAN	SD	MEAN	S	MEAN	SD	MEAN	SD	
		5PASS 5PASS 5PASS	t 1 1	SPASS SPASS SPASS		SPASS SPASS SPASS	1 1 1 1	5PASS 5PASS 5PASS	 	2FAIL 5PASS 5PASS	1 1 1 1	
	IDD QUIESCENT IDD DYNAMIC IDP	5PASS 5PASS 5PASS		5PASS 5PASS 5PASS		SPASS SPASS		5PASS 5PASS 5PASS		5PASS 5PASS		
	IDN REMARKS: *VTHN,	SPASS ,VTHP,THL	TCH.	SPASS PASS AI	S ALL DOSES	5PA .	_1	SPASS PASSED	ED 1ST	5PASS (2.5K)	8	
*	**************************************	*****	*	*******	* * * * *	********	**********	* * * * * * * * * * * * * * * * * * *	****** REF	* 92 ·	******	*
	4081	1 1 1 1	QUAD 2	2 INPUT AND	AND	CMDS			¦ ↓ 	4	2370	
	MANUFACTURER		PART NUMBER	IUMBER		SPEC	SPECIFICATION	NOI	DA	DATA SOURCE	RCE	
	NATIONAL SEMICONDUCT	NDUCT	CD4081		 	1 1 1 1 1	 	; 1 1 1 1 1	J.P.		 	
	RAD: T		PART OTY.	BIAS								
	733 C0-60	1	េច	CNK.	; ; ; ; ;	f ; } ! !	 	; ; ; ; ;	 	l 	í 	
	CUM. DOSE (RADS):		0		¥		쑮		¥9		15K	
	PARAMETERS	MEAN	SD	MEAN	SD	MEAN	SD	MEAN	So	MEAN	SD	
	DISS1(UA) DISS2(UA)	00151	t. I	000	900	3.5	.4926	500.	4.834	400.		

REMARKS:

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GENERIC PART NUMBER	IUMBER	FUNCTION	NO		TEC	TECHNOLOGY		REF. NO	REF.NO. RECORD
4081		QUAD 2IN	QUAD 2IN AND GATE	GATE	CMOS	CMOS	 	87	2770
MANUFACTURER		PART N	PART NUMBER		SPE	SPECIFICATION	ION	DATA SOURCE	OURCE
RCA		408 1B	1 1 1 1 1	 	NI W	WIL-M-38510	MIL-M-38510/170 A2	RCA	
LDC RAD. TY	PE PAI	RAD. TYPE PART GTY.							
7822 C0-60	! !	24	10	! ! ! !	 	() 	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	 	1
CUM. DOSE(RADS):	•	0	¥	100K					
PARAMETERS	MEAN	MEAN SD	MEAN	SD	MEAN	SD	MEAN SD	D MEAN	N SD
V HTMVC		 	.43	69. 90.	1 1	1 1 1 1 1	† † †	† † † † † † † † † † † † † † † † † † †	1

REMARKS: LDC = ER NO.

GENERIC	GENERIC PART NUMBER	ABER	FUNCTION	NO		TECI	rechnology	>-	œ	EF.NO.	REF.NO. RECORD
4081			GATE			CMDS	S	i ! ! ! !	1 1 1 (3)	55	2890
MANUFACTURER	TURER		PART NUMBER	UMBER		SPE	SPECIFICATION	TION	۵	DATA SOURCE	JRCE
R C A			CD4081B	8	, 	<u>;</u>	 	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	1	IRT CORP	
LDC	RAD. TYPE		PART OTY.	BIAS							
	09-00	G	1 1 1 1	VDD=15	VDD=15V, VSS=GND	GND=	1 1 1	1	 	1	
CUM.DOSE(RADS):	E(RADS):	0	i 		쏬		10K		30K		
PARAMETERS	ERS	MEAN	SD	MEAN	SD	MEAN	SD	MEAN	SD	MEAN	SD
100	AU AU	.010] 	010	} 1 1	17.6	!!!	717.0	1 1 1 1		1
VIH	>	5.85		5.60		5.10		FAIL			
۷IL	>	4.93		4.77		4.47		3.610			
HII	¥ Z	0.0		0.0		10.0		10.00			
111	V V	0.0		10.0		0.0		10.00			
TPHL	SZ	45.2		39.4		39.3		FAIL			
TPLH	_	37.1		42.4		40.8		FAIL			
REMARKS:	:										

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GENERIC PART MUMBER	is.	LON	TECHIN	TECHNOLOGY	REF. NO	REF.NO. RECORD
4082	DUAL 4	DUAL 4IN AND GATE	CMOS	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	888	2760
MANUFACTURER	PART N	PART NUMBER		SPECIFICATION	DATA SOURCE	OURCE
RCA	4082B		MIL-M	MIL-M-38510/170A A2	RCA	† † † † † †
. –	RT OTY.	BIAS				
09-00		100	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		1	1
CUM.DOSE(RADS):		100K				
PARAMETERS MEAN	SD	MEAN SD	MEAN	SD MEAN SD	MEAN	as N
DVNTH V	 	.08	.03			;

REMARKS: LDC = ER NO.

GENERI	GENERIC PART NUMBER	MBER	FUNCTION	NO		TEC	TECHNOLOGY		REF.NO. RECORD). REC	CORD
4085		 	2 2WIDE 2	2 2WIDE 2IN A/OR IN	VOR IN		CMOS	 	89	j "	2750
MANUFA	MANUFACTURER	 	PART	PART NUMBER		SPE	SPECIFICATION	NOI	DATA SOURCE	OURCE	
RCA			40858		! ! !	I E	MIL-M-3510/17	MIL-M-3510/172 A A2	RCA	!	!
LDC	RAD. TYPE PART OTY.	E PART	OTY.	BIAS							
7946	09-00		-	10v		!		1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	 		-
CUM. DO	CUM. DOSE (RADS):	0			100K						
PARAMETERS	TERS	MEAN	SD	MEAN	AN SD	MEAN	SO	MEAN SD	!	-	SD
DVNTH DVPTH	>>	f U E I '	1 3 6 1	.35	.06	!		# # # # #			1

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REMARKS: LDC = INSPECTION LOT NO.

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OF.	POOR	QUALI	TY

GENER	GENERIC PART NUMBER	UMBER	FUNCTION	NO		TEC	TECHNOLDGY		REF. NO.	REF.NO. RECORD
4086		 	EXP 4W 2	2IN A	EXP 4W 2IN A/OR INV	CMOS		!	06	2740
MANUFA	MANUFACTURER		PART NUMBER	UMBER		SPE	SPECIFICATION		DATA SOURCE	URCE
RCA			4086B		1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	MIL	MIL-M-38510/172A A2	A2		
LDC	RAD, TYPE PART GTY.	DE PAF	T OTY.	BIAS						
7933	09-00		11	Vot	i 4. 4. 1. 9.		1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1			; ; ;
CUM.DO	CUM. DOSE(RADS):	1	0	Ş	100K					
PARAMETERS	TERS	MEAN	SD	MEAN	SD	MEAN	SD MEAN SD	S	MEAN	SD
DVNTH DVPTH	>>	 	; ; ;	. 29	.00	1 1 1 4		1 2 1		

REMARKS: LDC= INSPECTION LOT NO.

REMARKS: LDC IS INSPECTION LOT NO.

REF.NO. RECORD

TECHNOLOGY

8-BIT ADDRESS.LATCH

FUNCTION

GENERIC PART NUMBER

2380

1-25

DATA SOURCE

SPECIFICATION

PART NUMBER CD4099

RCA CORPORATION

MANUFACTURER

BIAS

RAD. TYPE PART OTY.

09-00

NONE

JPL

MEAN

MEAN

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S

MEAN

S

MEAN

PARAMETERS

0

CUM. DOSE (RADS):

.4366 .3894 .0076

3.2 3.5 1.55

.630 1.59 1.44

DISS1 DISS2 DVIN(V) DVTP(V)

REMARKS:

300K

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****	2	92 2720	TOGISON ATAO					SD MEAN SD	,
**************************************		CMDS	SPECIFICATION	MIL-M-38510/176A A1				MEAN SD MEAN	
FUNCTION		8 BIT ADDRESS LATCH	PART NUMBER	4099B	PART OTY. BIAS	13 100		SD MEAN SD	20 96
RIC PART NUMBER		9 9	MANUFACTURER	-	LDC RAD. TYPE PART		CUM.DOSE(RADS): 0	PARAMETERS MEAN	DVNTH

REMARKS: LDC= METAL EVAPORATION RUN

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OF	POOR	QUALI	TY

GENERI	GENERIC PART NUMBER		FUNCTION	No		TECH	TECHNOLOGY	; ; ; ;		F .NO.	REF.NO. RECORD
4250	! ! ! ! !	, <u></u>	PROGRAM	PROGRAMMABLE OP AMP	OP AMP	BIPOLAR	LAR		25	25-33	2700
MANUFA	MANUFACTURER		PART NUMBER	UMBER		SPEC	SPECIFICATION	NO	2	DATA SOURCE	RCE
NSC	1	-	LM4250J		 		 		AE	AEROJET	
rDC	RAD. TYPE	PART	PART GTY.	BIAS	,		i 1		i 1	1 1 1	
7712	09-00		2	UNK							
CUM. DC	CUM. DOSE (RADS):	•		12.5K	5K	42.5K	SK	13(130K	1	250K
PARAMETERS	ETERS	MEAN	SD	MEAN	SD	MEAN	OS .	MEAN	SD	MEAN	
VIO	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	SPASS] 	SPASS *	; 	5PASS	 	5PASS *		5PASS	10.2
110 100 88M		5PASS 5PASS 5PASS		* 5PASS 5PASS		* 5PASS 5PASS		* 5PASS 5PASS		SPASS SPASS	* 1010

GBW ALSO DEGRADED SIGNIFICANTLY
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REMARKS:

GENERIC PART NUMBER	MBER FUNCTION	, NO	TECHNOLOGY	Œ	REF.NO. RECORD	RECOR
4344	PHASE/FRE	PHASE/FREG DETECTOR	BIPOLAR	-	1017	5170
MANUFACTURER	PART NUMBER	IUMBER	SPECIFICATION		DATA SOURCE	JRCE
MOTOROLA	MC4344L		 		TRW	
LDC RAD. TYPE	RAD. TYPE PART OTY.	BIAS	1 9 4 1 1 1 1 1		; ; ;	; · · · · · · · · · · · · · · · · · · ·
8031 C0-60		VCC=5.0V.				
CUM. DOSE (RADS):	0	100K	200K	500K	‡ ‡ 1	1MEG
PARAMETERS		MEAN SD	MEAN SD	MEAN SD	MEAN	SD
E(PH)(2) RAD	0.797 0.044	0.797 0.043	0.801 0.045 0.532 0.031	0.804 0.043 0.558 0.024 0.0 0.0		0.834 0.040 0.557 0.028 0.0 0.0
A A C))					

REMARKS: *E(PH)=PHASE ERR. (1)@-3(PI)/2. (2)@-(PI). (3)@O. **CONT. ON REC. 5171

5171

1017

TECHNOLOGY BIPOLAR

FUNCTION PHASE/FREG DETECTOR

GENERIC PART NUMBER

DATA SOURCE

SPECIFICATION

PART NUMBER

MANUFACTURER MOTOROLA BIAS

RAD. TYPE PART QTY.

LDC

REF.NO. RECORD

ORI	GINAL	PAGE	19
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CUM.DOSE(RADS):	RADS):		C	¥	TOOK	55	200K	50	500K	7	MEG
PARAMETERS	S	MEAN	SD	MEAN	1	MEAN SD	SD	MEAN	SD	MEAN SD	SD
 	 		† † † !	 	i L I I	i i i	i ! !	! ! !	 	t ! ! !	1
E(PH)(4)	RAD	217	17 .249182 .2651	182	. 265	187	. 256	142	. 252		.250
E(PH)(5)	RAD	334	.375	322	.389	312	.392	307	.377		.374
I (OLK8)	X	4.62	0.63	3.78	0.41	3.76	0.51	3.55	0.44		0.45
I(0LK10)	ÞΑ	4.56	1.14	5.82	1.05	7.32	1.13	10.52	1.51		2.72
I(08)	MA	6.128	1.387	3.16	0.351	2.090	2.090 0.215	1.084		0.688	0.075
VEH	>	2.186	0.066	2, 195	0.068	2.201	690.0	2.211	0.069		0.066
REMARKS:	*	FROM F	RC. 51	70. (4)	(PI).	(E)@3(PI)/2.				

GENERIC PART NUMBER	_	NOI		TECH	TECHNOLOGY		RE	-	ECORD
4502	STROB HEX	STROB HEX INV/BUFF	BUFF	CMOS	1 1 1 1	; ; ; ;		; ; ;	2710
MANUFACTURER	PART	PART NUMBER		SPEC	SPECIFICATION	NO	DA	DATA SOURCE	SCE.
RCA	4502B	; ; ; ; ; ; ;	i ! ! !	MIL	MIL-M-38510/174 A2	/174 A	RCA]
	RAD. TYPE PART QTY.	-		•			;		
7840 CD-60	11	100	i 	! 				 	
CUM.DOSE(RADS):	o		¥						-
PARAMETERS	i	_	SD	MEAN	SD	MEAN SD	SD	MEAN	SD
DVPTH V		. 45	0.03]. 		

REMARKS: LDC= METAL EVAPORATION RUN

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PAGE A-204

***5PASS, BUT SIGNIF. INCREASE

SD

MEAN

S

MEAN

SD

MEAN

SD

MEAN

SD

MEAN

PARAMETERS

*FAIL *FAIL SFAIL SPAIL SPASS

*FAIL *FAIL *FAIL *FAIL *FAIL ***

5PASS 5PASS 5FAIL 5PASS 5PASS 5PASS 5PASS *SOME.

5PASS 5PASS 5PASS 5PASS 5PASS 5PASS

5PASS 5PASS 5PASS 5PASS 5PASS 5PASS

IL 5PASS 5PASS FUNCTIONALITY 5PASS SPASS SPASS IDP 5PASS SPASS IDD QUIESCENT 5PASS 5PASS IDD DYNAMIC 5PASS SPASS REMARKS: **II,THL,TLH,IDN PASS ALL DOSES.

A A A A A A A A A A A A A A A A A A A	GENERIC PART NUMBE 4508 LDC RAD. TYPE 7746 CO-60 CUM.DDSE(RADS): PARAMETERS ME FUNCTIONALITY SP VOL SP IDD QUIESCENT SP IDD QUIESCENT SP IDD QUIESCENT SP IDD DYNAMIC SP IDD DYNAMIC SP IDD GUIESCENT SP IDD MANUFACTURER MANUFACTURER SOLID STATE SCI.
	MBER PART PART PART PART PART PART PART PAR

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PAGE A-205

GENERIC PART NUMBER	PART	NUMBE		FUNCTION	NO		TECH	TECHNOLOGY		Œ	REF.NO. RECORD	RECORD	
451	 	 	1	4 CHAN	4 CHANNEL SWITCH	TCH	MOS	 	! 1 ! !	i i i di	25-37	2580	
MANUFACTURER	TURER			PART NUMBER	IUMBER		SPEC	SPECIFICATION	NOI	ລ	DATA SOURCE	RCE	
NSC		 	-	MM451H		[[]]	! ! !	 	 	!	AEROJET	 	
	RAD. TYPE		PART	PART OTY.	BIAS								
7644	09-00		! ! !	4	C NK		; † † †		1 1 1 1		 	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	
CUM. DOSE(RADS):	E(RADS	3):	0	·	13.5K	퐀	ָ	59K	Ξ	113K	329K **	*	
PARAMETERS	ERS	Æ	MEAN	SD	MEAN	SD	MEAN	SD	MEAN	SD	MEAN	SD	
* (HT)S9A	; ; ; *	. 4	4PASS	! ! !	4FAIL	 	4FAIL	† 	4FAIL	, 	2FAIL	1 1 1	
0		4P	ASS		4PASS		4PASS		4PASS		2PASS		
IGBS		44	4PASS		4PASS		4PASS		4PASS		2PASS		
ID(OFF)		4P	4PASS		4PASS		4PASS		4PASS		2PASS		
IS(OFF)		4 P	4PASS		4PASS		4PASS		4PASS		2PASS		
NAG GGI	AMIC	4P	4PASS		4PASS		4PASS		4PASS		2PASS		
표		4 P	4PASS		4PASS		4PASS		4PASS		2PASS		
REMARKS: *TLH ALSO PASSED AT	: *TLF	4 ALSO	PAS	SED AT			**ONLY 2 DEVICES EXPOSED TO	DEVICE	S EXPOS	ED TO	_		

GENERIC PART NUMBER		FUNCTION	NO.		TEC	FECHNOLOGY		- C	REF.NO.	α
451	4	CHAN	4-CHANNEL SWITCH	TCH	MOS	 	 	6	25-38	2590
MANUFACTURER	4	RT N	PART NUMBER		SPEC	SPECIFICATION	LION	۵	DATA SOURCE	IRCE
INTERSIL	E	MM451HTW		i ! ! !	!	i 	† † 	\	AEROJET	1 1 1 1
LDC RAD. TYPE	E PART QTY.	λTY.	BIAS							
7643 C0-60	4	! !	N) 	; 1 1 1 1 1	i † ! !
CUM.DOSE(RADS):	0		8	2.5K		Š	-	130K	2	250K
PARAMETERS	_	SD	MEAN	SO	MEAN	SO	MEAN	SD	MEAN	G.
VGS ***	4PASS	!	4PASS	 	*FAIL	 	*FAIL	1 1 1 1	4FAIL	
2	4PASS		4PASS		*FAIL		*FAIL		4FAIL	
IGBS	4PASS		4PASS		4PASS		4PASS		4PAS	
ID(OFF)	4PASS		4PASS		4PASS		4PASS		4PAS	••
IS(OFF)	4PASS		4PASS		4PASS		4PASS		4PAS	
IDD DYNAMIC	4PASS		4PASS		4PASS		4PASS		4PAS	
0^	4PASS		4PASS		4PASS		4PASS		4PAS	
REMARKS: ***THL, TLH PASS ALL	TLH PASS	S ALL)S) *	*(SOME)					

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GENERIC PART NUMBER		FUNCTION	N	. !	TECH	FECHNOLOGY		交	EF.NO.	REF.NO. RECORD
452	 	4XSPST S	4XSPST SWITCH		PMOS		; ; ; ; ; ;	i či	25-39	2600
MANUFACTURER		PART NUMBER	JMBER		SPEC	SPECIFICATION	ION	ò	DATA SOURCE	JRCE
INTERSIL	1 1 1	MM452FD		; 		! ! !	 	Ā	AEROJET	
LDC RAD. TYPE PART QTY.	E PART	0TY.	BIAS							
7635 C0-60	† † 	1	UNK.	i i i i	 	 	; f l i		i i t: i	
CUM. DOSE (RADS):	0		** X09	*		120K				
PARAMETERS	MEAN	SD	MEAN	SO	MEAN	SD	MEAN	SD	MEAN	SD
VGS(TH) * V	4PASS 4PASS	-,	-7.1 2PASS	2FAIL	-8.5 4PASS	4FAIL				
IGBS	4PASS		2PASS		4PASS					
ID(OFF) IS(OFF)	4PASS		2PASS 2PASS		4PASS					
			2							

· .
)=-3,C
Ŧ.
VGS(TH)
MAX
*SPEC.
60K.
AT
TESTED
DEVICES
0
**ONLY
REMARKS:

SENERIC	GENERIC PART NUMBER	IBER	FUNCTION	NO		TECH	ECHNOLOGY	_	~	REF.NO. RECORD	ECOR
452	; [] []]]		4XSPST	4XSPST SWITCH		PMOS		I I I I	. 6	25-40	2610
MANUFACTURER	TURER		PART NUMBER	UMBER		SPEC	SPECIFICATION	NOI	۵	DATA SOURCE	CE
f f l f l	! 	! !	MM452F	 	 	‡ !		; ; ; ;	: « !	AEROJET	; ; ; ;
	RAD. TYPE		PART OTY.	BIAS							
7721	09-00	!	4	C K	; { { } { }	; ; ; ; ;) 	; ; ; ;	 	! ! ! ! ! !	i i i i
SOO. MOS	CUM. DOSE(RADS):		0	်	9. 9K	19.8K	*	30.6K	X	40.5K	ž. X
PARAMETERS	ERS	MEAN	SD	MEAN	SO	MEAN	SD	MEAN	SD	MEAN	SD
VGS(TH)	>	1.59		1.78	 	2.00	 	2.08		2.23	
9		4PASS		4PASS		4PASS		4PASS		4PASS	
IGBS		4PASS		4PASS		4PASS		4PASS		4PASS	
ID(OFF)		4PASS		4PASS		4PASS		4PASS		4PASS	
(S(OFF)		ADACC		ADACC		ADACC		ADACC		ADACC	

REMARKS: CONTINUED ON RECORD 2611.

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GENER 1	GENERIC PART NUMBER	WBER	FUNCTION	NO		TECH	TECHNOLOGY		~	EF.NO.	REF.NO. RECORD
452		! ! !	4XSPST S	4XSPST SWITCH	! ! ! !	PMOS	1		: 73 !	25-40	2611
MANUFA	MANUFACTURER		PART NUMBER	UMBER		SPE	SPECIFICATION	NOI	۵	DATA SOURCE	JRCE
NSC	: 	 	MM452F		 	1	 	; ; ; ;	i e	AEROJET	
207	RAD. TYPE		PART OTY.	BIAS							
7721	09-00	; ; ;	4	CNK	 		1 1 1 1 1	; ; ! !		; ; ; ; ;	
CUM.DO	CUM.DOSE(RADS):			80.1K	¥	119.7K	¥	198.9K	8		
PARAMETERS	TERS	MEAN	SD	MEAN	SO	MEAN	SD	MEAN	SD	MEAN	S
VGS(TH)				2.50	f F I I	2.69	! !	3.03	1		1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
9				4PASS		4PASS		4PASS			
IGBS				4PASS		4PASS		4PASS			
ID(OFF IS(OFF				4PASS		4PASS		4PASS			
2				2004		りつばしま		4TAUU			

REMARKS: CONTINUATION FROM RECORD 2610.

GENERIC PART NUMBER	FUNCTION	NO		TEC	TECHNOLOGY		32	REF.NO. RECORD	RECOR
4602	QUAD OP AMP	P AMP	: 	B1P(BIPOLAR	; ; ; ;	25	25-41	2680
MANUFACTURER	PART NUMBER	IUMBER		SPE(SPECIFICATION	NOI	Ď	DATA SOURCE	RCE
HARRIS	WA1-4602-2	302-2	! ! ! !	!	 	! ! !	AE	AEROJET	# ! ! !
LDC RAD. TYPE PART 0TY.	ART OTY.	BIAS							
09-00	1 1 1 1 1 1 1	UNK.	, 	! !	1 1 1 1 1	, 	 	1 1 1	! ! !
CUM. DOSE(RADS):	0		18K						
PARAMETERS MEAN	QS N	MEAN	SD	MEAN	SD	MEAN	SD	MEAN	SD
VIO MV 5PASS IIB 5PASS IIO 5PASS IQ 5PASS GBW MHZ 5PASS FUNCTIONALITY 5PASS	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	SPASS SPASS SPASS SPASS SPASS		1 1 1 1	1 1 4 2		; ; ;	1 1 1 1 1	1

REMARKS: *4:7816R;1:7823R. **5FAIL(SPECMAX=2.5MV). ***2 FELL FROM 16 TO .327MHZ

2690

REF.NO. RECORD

TECHNOLOGY BIPOLAR

QUAD OP AMP

FUNCTION

GENERIC PART NUMBER

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MANUFACTURER		PART NUMBER	UMBER		SPE	SPECIFICATION	TION	_	DATA SOURCE	CE
HARRIS		HA1-47412-2	412-2						AEROJET	!
LDC RAD. TYPE PART QTY. BIAS	E PAR	T QTY.	BIAS							
		ម ម	CNK.	! ! !		j)
CUM. DOSE(RADS):			5	12.5K	42	42.5K	13	130K		
PARAMETERS	MEAN	SD	MEAN	SD	MEAN	as	MEAN SD	SD	MEAN	So
VIO IB	5PASS 5PASS) 	5PASS] 	5PASS	 	5PASS	1	1 1 1	1
110 10 GBW	5PASS 5PASS 5PASS		* 5PASS 5PASS		* 5PASS 5PASS		5PASS 5PASS			

REMARKS: * SEVERAL FAILED IIO AND IB AT LOW DOSES AND HAD SIGNIFIC. DBW DEGRAD.

GENERIC PART NUMBER	MBER FUNCTION	NOI	TECHNOLOGY	LOGY	REF.NO.	REF.NO. RECORD
5001	¥ X	1K X 1 RAM	CMOS/SOS	0.5	1-138	2920
MANUFACTURER	PART	PART NUMBER	SPECIF	SPECIFICATION	DATA SOURCE	URCE
RCA	MWS5001D	010			JPL	
LDC RAD. TYP	RAD. TYPE PART QTY.	BIAS				
7622 CD-60		VCC=5V.				
CUM.DOSE(RADS):	0	300	¥	¥	V	Ş
PARAMETERS	MEAN SD	MEAN SD	MEAN SD	MEAN	SD MEAN	
ICC(MAX) * MA MARCH R/W PING PONG	PASS PASS	14 PASS PASS	PASS PASS PASS	220 PASS PASS	880 FAIL FAIL	
PARAMETERS MEASURED © VCC = 5V						

REMARKS: * MEAN = WORST-CASE PARAMETER VALUE (NOT AVERAGE).

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REF.NO. RECORD 1-139 2930

TECHNDLOGY CMOS/SOS

FUNCTION 1K X 1 RAM

GENERIC PART NUMBER

DATA SOURCE

SPECIFICATION

PART NUMBER

MANUFACTURER RCA

ori	GINAL	PAGE	S
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	1 1 1 1	¥	SD	 		ш
			MEAN	15	FAIL	PARAMETERS MEASURED © VCC = 10V REMARKS: * MEAN = WORST-CASE VALUE (NOT AVG). **NOT MEASURED AT THIS DOSE
	 	¥	SD	: ! !		D AT
	! ! ! ! !		MEAN	10	PASS	MEASUREI
		¥	SO	 		* * NOT
	 		MEAN SD	4.2	* *	AVG).
		2	SO			TON)
BIAS	VCC= 10V	300	MEAN SD	1.2	* * *	VALUE
_						-case
RAD. TYPE PART OTY.	4	0	MEAN SD		25.5	YORST
E P			MEA	0.115	PASS	 11 2
TYP	09-00	08):		MA		S OV MEA!
RAD.	09-00	SE (RA	TERS	*		PARAMETERS MEASURED © VCC = 10V MARKS: * M
CDC	NONE	CUM. DOSE(RADS):	PARAMETERS	ICC(MAX) * MA	MARCH	PARAI MEASI O VCI REMARKS

ENERIC	GENERIC PART NUMBER		FUNCTION	N		TEC	TECHNOLOGY		R	- -	RECORD
504	f f i i l f	! !	DP-AMP	 	 	BIPOL	BIPOLAR	! ! !	 +	1-2	3080
MANUFACTURER	TURER	-	PART NUMBER	UMBER		SPE	SPECIFICATION	NOI	DA	DATA SOURCE	CE
NALOG DEVIC	ANALOG DEVICES, INC.		AD504		! ! ! !	i i i	† † † †	 	Jan .	JPL]
	RAD. TYPE		PART OTY.	BIAS							
7834L	2.5MEV EL		5	CNK.	! ! !	, ! ! !	! ! ! !	! ! !	• • • • •	; ; ; ;	
UM. DOS	CUM.DOSE(RADS):	0			30K		75K	¥	150K	9	600K
PARAMETERS		MEAN	SD	MEAN	SD	MEAN	SD	MEAN	SD	MEAN	SD
DVOS DIOS		! ! !	t 	.0045	.0027	.8000	.0117	.0098	.0233	.0293	.0776
DIB +GAIN -GAIN		136.	и и 0 С	16. 134.	7.187 5.209	130.9	40. 7.857 130.9 2.234 137.2 1.979	130.2	66. 17.54 130.2 3.662	178.	1.407

REMARKS:

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GENERIC	***

GENER I	GENERIC PART NUMBER	MBER	FUNCTION	NO		TECHIN	rechnology		X	F.NO.	REF.NO. RECORD
508			ANALOG	ANALOG SWITCH	:	CMOS			₽	101-2	3040
MANUFACTURER	CTURER		PART NUMBER	UMBER		SPEC	SPECIFICATION	NO	Q	DATA SOURCE	IRCE
HARRIS		f 	HI-508A		† † ! !	; ; ;	i ! ! !		: :: !	LITTON	
LDC	RAD. TYPE		PART OTY.	BIAS		1	; ;			i	
L .	09-00	ES .		V+=+1	5V. V-=	-15V, P	V+=+15V, V-=-15V, PINS 1,2,15,16 TO +5V THRU 10K	2, 15, 16	T0 +5	V THRÙ	10K
CUM. DO	CUM.DOSE(RADS):		0	က	3.9K		8K	1		1	
PARAMETERS	TERS	MEAN SD	S	MEAN	SD	MEAN	SD	MEAN	SD	MEAN	SD
LEAK/II LEAK/II LEAK/O LEAK/O R(ON)	LEAK/IN+5V PA LEAK/IN-5V PA LEAK/O +5V PA LEAK/O -5V PA R(ON) OHMS	17.00 13.00 59.00 78.00	17.00 5.400 13.00 2.400 59.00 33.00 78.00 71.00 1157. 29.89		15.00 23.00 12.00 26.14	24.00 20.00 11.00 13.00 35.00 40.00 43.00 28.00 1108. 39.00	20.00 40.00 28.00				

REMARKS:

GENERI	GENERIC PART NUMBER	WBER	FUNCTION	N.		TECH	TECHNOLOGY		2	EF.NO.	REF.NO. RECORD
5101	 	! ! !	256X4 RAM	RAM	! ! ! ! !	CMDS	 	! ! ! ! !	50	20	3680
MANUFA	MANUFACTURER		PART NUMBER	UMBER		SPEC	SPECIFICATION	NOI	70	DATA SOURCE	URCE
588	 	! !	SCM5101C-1	10-1	! ! ! !	; ; ; ;	‡ ; ; ; ;	; ; ; ; ; ;	Σ	MOTOROLA	: : : : :
TDC	RAD. TYPE		PART OTY.	BIAS		; ;					
7942	09-00	 	3	VCC=5V		 	 - - - -	 	 	i 	; ; ; ; ;
CUM. DO	CUM.DOSE(RADS);		0	,	1.5K		¥			. *	
PARAMETERS	TERS	MEAN SD	SD	MEAN	S	MEAN	S	MEAN	SD	MEAN	SD
VTV	>> \$	1.168	1.168 .0443 1.168 .1135	1.013	. 0907 . 1096	. 8518 1.292 555 3	8518 . 1673 1.292 . 1059 555 3 119 0				
)	5			0	,)				

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GENERI	GENERIC PART NUMBER	MBER	FUNCTION	NO		TEC	TECHNOLOGY			REF.NO. RECORD	RECORD
5101			256X4 RAM	RAM	! ! ! !	CMOS		 	!	19	3690
MANUFACT	MANUFACTURER		PART NUMBER	UMBER		SPEC	SPECIFICATION	ION	٥	DATA SOURCE	RCE
MOTOROLA	JLA	; ; ;	MCM5 10 1C80	1080	1 	!		 		MOTOROLA	1
LDC	RAD. TYPE		PART OTY.	BIAS							
8026	09-00	; ; ; ; ;	5	VCC=5V		1	! ! ! ! ! ! ! ! ! ! ! ! ! ! ! ! ! ! ! !	; ; ; ; ; ;	1	1	‡
CUM. DO	CUM. DOSE(RADS):		•	•			X				
PARAMETERS	TERS	MEAN	SO	MEAN	SD	MEAN	SO	MEAN	SD	MEAN	SD
VTN VTP ICC	> > N	.5751 1.068 .0700	.5751 ,0313 1.068 .1804 .0700 ,0141	. 4387 1. 124 . 5150	.4387 .0775 1.124 .1803 .5150 .2051		.3123 .1358 1.174 .1771 11.65 7.425	!			1

GENERIC PART NUMBER	BER FUNCTION	ION	TECHNOLOGY		REF.NO. RECORD
5211	12-BI	12-BIT A/D CONVRTR.	CMDS	7 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	1-134 2900
MANUFACTURER	PART	PART NUMBER	SPECIFICATION	ATION	DATA SOURCE
MNC	MN5211			 	JPL
LDC RAD. TYPE	PART OTY.	BIAS			
8102 2.5MEV EL	7	VCC=5V, VDD=12V, VEE=-;2V	12V, VEE=-;	2V.	
CUM. DOSE (RADS):	0	75K	150K	300K	600K
PARAMETERS	MEAN SD	MEAN SD	MEAN SD	MEAN SD	MEAN SD
(MAX)MV	2.01	2.16	4.17	10.36	16.86
LSB	0.824	0.887	1.710	1.152	06.9
LSB	0.501	0.542	0.560	0.736	1.352
IOH(MIN) MA	4.80	4.70	4.68	4.65	4.63
IOL(MIN) MA	17.69	14.42	13.27	12.17	11.15
TERS	CONT. ON				
REMARKS: MEAN =	WORST-CASE	PARAMETER VALUE (NOT AVG.), BIAS SAME AS ABOVE.	JE (NOT AVG	.). BIAS SAM	E AS ABOVE.

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GENERIC PART NUMBER	JMBER	FUNCTION	NOI	:		TECHNOLOGY		62	REF.NO. RECORD	RECORD
5211	 	12-BIT A	12-BIT A/D CONVRTR.	ONVRTR	CMOS		; ; ; ;	; - !	1-134	2901
MANUFACTURER	•	PART	PART NUMBER		SPEC	SPECIFICATION	NOI	۵	DATA SOURCE	JRCE
MNC	! ! !	MN5211	-	1 1 1 1 1	!	; ; ; ;	: ! ! !	; ; ;	i 1 1 1 1	; ; ; ; ;
LDC RAD. TYPE		PART OTY.	BIAS	; ; ;			1 		1	† † ; ;
CUM.DOSE(RADS):		0		75K	<u>.</u>	150K	9	300K		600K
PARAMETERS	MEAN	QS .	MEAN	SD	MEAN	SD	MEAN	S	MEAN	SD
	795	! ! ! !	804	1	793	! ! !	778	 	76	
IIL(MAX) UA DVREF(MAX) MV	332		3.0	~	9 55 9 .51 9 .51		1.5			
	21.9 13.95	a ^r	21.5		21.4		21.3 13.80		13.80	
PARAMETERS CONT. ON REC. 2902.	CONT.	NO NO NO NO NO NO NO NO NO NO NO NO NO N	REC.	2902.						

GENERIC PART NUMBER	FUNCTION	TECHNOLOGY	REF, NC. RE
5211	12-BIT A/D CONVRTR.	CMDS	1-134 2902
MANUFACTURER	PART NUMBER	SPECIFICATION	DATA SOURCE
MNC	MN5211		
LDC RAD. TYPE PART QTY. BIAS	RT OTY. BIAS		
		中国 医中枢电子 医多生电子 医多色性 医电阻 医电阻 医电阻 医电阻 医甲基甲基甲基甲基甲基甲基甲基甲基甲基甲基甲基甲基甲基甲基甲基甲基甲基甲基甲基	

CUM. DOSE (RADS):			75K	75K	¥ .	150K	36	300K	9	600K
PARAMETERS	MEAN SD	SD	MEAN SD	MEAN SD	MEAN SD	SD	MEAN SD	MEAN SD	MEAN SD	S
IEE(MAX) MA	8.60		8.50	1 1 1 1 1	8.50	i i i	8.50	 	8.45	
+FSACC(MIN) V	4.99		4.99		4.99		5.00		5.00	
-FSACC(MIN) V	4.99		4.99		4.99		4.98		4.96	
VOL(MAX) MV	109		113		114		115		116	
VOH(MIN) V	4.02		4.03		4.04		4.03		4.04	
END OF										
PARAMETERS										
REMARKS: CONTINUATION FROM RECORD 2901.	UATION	FROM	RECORD 2	2901						

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GENERI	GENERIC PART NUMBER	FUNCTION	NO) ((((TECHN	FECHNOLOGY	; ; ;	I	REF.NO.	RECORD	
5214		12-BIT	12-BIT A/D CONVRTR.	NVRTR.	CMDS			 	1-135	2910	
MANUFA	MANUFACTURER	PART NUMBER	JMBER		SPEC	SPECIFICATION	8	۵		SOURCE	
MNC	 	MN5214	! ! ! !	i i i i	 	} ! ! ! !] 	5	JPL	 	
TDC	RAD. TYPE PA	PART OTY.	BIAS								
8 02		8	VCC=5V,	, VDD=15V,		VEE=-15V.	[i i i i	; ; ; ; ; ;	- - 	
CUM. DC	CUM. DOSE(RADS):		м	30K	7.5	75K					
PARAMETERS	_	OS I	MEAN	SD	MEAN	SD	MEAN	S	MEAN	SD	
IIH(MAX) IIL(MAX) BYREF(MAX) ICC(MAX) IDD(MAX) IEE(MAX) -PARAMET REMARKS:	XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX	898 304. 20.4 7.95 0NT. DN	FAIL FAIL FAIL FAIL FAIL FAIL FAIL FAIL	2911. AVG.) @	FAIL FAIL FAIL FAIL FAIL FAIL	FAIL FAIL FAIL FAIL FAIL FAIL FAIL FAIL	15V. VI	1 33	. Na	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	
GENERIC	**************************************	**************************************	* * * * ZO	* * * *	****** TEC:4	**************************************	* * * * *	* 2	******* REF.NO.	RECORD	₩ ₩ ₩
5216] ; ; ; ; ; ; ; ; ;	12-BIT	2-BIT A/D CONVRTR	NVRTR.	CMDS	1 1 1 1	i 1 1 1 1	; ← }	1-136	2890	
MANUFA	MANUFACTURER	PART NUMBER	UMBER		SPEC	SPECIFICATION	NO	۵	DATA SOURCE	JRCE	
MNC		MN5216					, ! !	5	JPL		
LDC	RAD. TYPE PA	PART OTY.	BIAS	 		. 1					
*	2.5MEV EL	က	VCC=5V.	', VDD=15V,	SV, VEI	VEE=-15V.					
CUM. DC	CUM.DOSE(RADS):	0	7	75K	150K	X:	300K	×		600K	

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. S.). BIAS SAME AS ABOVE.

REC. 2891. MEAN = WORST-CASE (NOT

REMARKS: **7909(1),7910(2).

SD

MEAN

S

MEAN

S

MEAN

SD

MEAN

S

MEAN

PARAMETERS

4.86 6.84 0.737 220

4.08 106 4.91 8.19 0.774

4.29 106 4.72 9.73 0.781 228

3.50 103 4.35 11.25 0.805 228 REC.

3.49 97.5 4.49 15.24 0.818 236 CONT.

VOH(MIN) V
VOL(MAX) MV
IOH(MIN) MA
IOL(MIN) MA
IIH(MAX) UA
IIH(MAX) UA
IIL(MAX) UA

ORIGINAL PAGE 19 OF POOR QUALITY

GENERIC PART NUMBER	WBER	FUNCT I ON	NO		TEC	TECHNOLOGY			REF.NO.	
5216	F 	12-BIT	12-BIT A/D CONVRTR.	NVRTR.	CMOS				1-136	2891
MANUFACTURER		PART NUMBER	IUMBER		SPEC	SPECIFICATION	NOI	_	DATA SOURCE	JRCE
MNC	† 	MN5216	 	; ; ; ;	! ! !	; ; ; ;	 	' ! !		
LDC RAD, TYPE		PART OTY.	BIAS	1	1		; ;		!	# # # # #
CUM.DOSE(RADS):	0			75K		150K	30	3006		6 00 K
PARAMETERS	MEAN	SD	MEAN	SD	MEAN	SO	MEAN	SD	MEAN	SD
DVRFF (MAX) MV		† 1 1 1	7.99	t 	6.50	1	96.6	j † †	16.0	
TCC(MAX) MA	16.45		15.95		14.56		14.25		14.1	-
IDD(MAX) MA	12.40		12.85		19.00		19.95		21.0	0
IEE(MAX) MA	11.92		11.95		11.60		11.85		12.1	ις L
AX)	2.13		13.12		FAIL		FAIL		FAIL	
OFFERR	i i		ŗ				14.4		. 44	_
(MAX) LSB	0.750		5.25		FAIL		FAIL		LAT	ٔ د
REMARKS: CONTINUATION FROM RECORD 2890	UATION	FROM	SECORD 2	890.	PARAME	rers or	PARAMETERS CONTINUED ON RECORD 2892		RECORD	2892.

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GENERIC PART NUMBER	FUNCTION	TECHNOLOGY		RECORD
5216	12-BIT A/D CONVRTR.	CMDS	1-136	2892
MANUFACTURER	PART NUMBER	SPECIFICATION	DATA SOURCE	URCE
ANC	MN5216			
LDC RAD. TYPE PART QTY. BIAS		BIAS	Î ! ! ! !	1 1 1 1

CUM.DOSE(RADS):			Γ-	75K	Ŧ	150K	ĕ	300K	9	600K
PARAMETERS	MEAN SD	SD	MEAN SD	MEAN SD	MEAN SD	MEAN SD	MEAN SD	MEAN SD	MEAN SD	S
AOL OFF MV			11.90		11.90		13.73		28.3	
AOL ERR (MAX) LSB	1.21		4.87		4.91		5.62		11.62	
NONLIN (MAX) LSB	0.919		0.721		FAIL		FAIL		FAIL	
* REMARKS: CONTINUATION FROM RECORD 2891.	NATION	FRCM R	ECORD 3	. 1683	*END OF PARAMETERS.	PARAN	ETERS.			

REF.NO. RECORD

TECHNOLOGY

FUNCTION

GENERIC PART NUMBER

7

	GINAL		
OF	POOR	QUALI	ŢΫ́

532	MULTIF	MULTIPLIER/DIVIDER	BIPOLAR	1044 5460	
MANUFACTURER	PART NUMBER	UMBER	SPECIFICATION	DATA SOURCE	
ANALDG DEVICES	AD532	7 f 1 1 1 1 1 1 1 1 1	; ; ; ; ; ; ; ; ; ; ; ; ; ; ; ; ; ; ;	TRW	
LDC RAD. TYPE	PART OTY.	BIAS			
	ນ	+(PIN	V-(PIN5)=-15V;	PINS 7.8,9,10 & GND*	
CUM.DOSE(RADS):	0	100K	300к	500K	
PARAMETERS	S	ш	SD ME	SD MEAN SD	
M M M M	136.4 1.727 543.5 4.779 1221. 9.985 2170. 16.80	135.4 541.9 1218. 2165.	1.681 4.594 9.434 16.27	+ 4.6	
VO(5V) MV IS MA VOS MV REMARKS: *; PINS	3387. 25.79 2.640 0.055 25.86 20.85 S f.3.4,6 TD	3377. 26.06 2.560 0.055 30.44 21.41 GND VIA 1K.	3391. 25.39 3373. 2.560 0.055 2.400 35.96 21.86 40.08	. 25.97 0 0 8 23.03	
GENERIC PART NUMBER	*	**************************************	**************************************	* *	
54C/74	HEX/QUAD	JAD D-FLIP-FLO	TTL	24-42 3170	ORIG OF F
MANUFACTURER	PART NUMBER	UMBER	SPECIFICATION		einai Poof
NATIONAL	540174		COMMERCIAL	ROCKWELL	P Q
	PART OTY.	BIAS			age Uali
32314 CD-60	10	VDD=CLR=D4=D5=D6=CK=5V,	•	REST TIED TO GND	13 17
CUM. DOSE(RADS):	0	JOK	20K		
PARAMETERS	7	SD	SD M	M QS	
CC UA OH	!	235.4 117.6 .0367 .0102 .0578 .0130	2800 349.6 1.128 1.239 .8973 1.231		

REMARKS: LDC=LOT NO

ORIGINAL PAGE IS OF POOR QUALITY

GENERIC PART NUMBER	MBER	FUNCTION	Z		TEC	TECHNOLOGY	ĞΥ	Œ	REF.NO.	REF.NO. RECORD
540200	 	256X4 RAM	SAM.] 1 1 1	CMOS	S	; ; ; ; ; ;	-	1-128	2960
MANUFACTURER		PART NUMBER	MBER		SPE	CIFIC	SPECIFICATION	۵	DATA SOURCE	JRCE
NSC		MM54C200	8	 - - -	<u>.</u> !	!	 		UPL	1
LDC RAD. TYPE		PART OTY.	BIAS							
NONE CD-60	h 1		VCC= 104	. 4	; ; ;		; ; ; ; ; ;	! !	1	‡ ‡ ‡ ‡
CUM.DOSE(RADS):			: 1	300		¥		¥	Ş	*
PARAMETERS	MEAN	S	MEAN	SD	MEAN	SD	MEAN	SO	MEAN	QS
ICC(MAX) * NA MARCH R/W PING PONG	1.2 PASS PASS	: . 	PASS PASS	 	12.0 PASS PASS		38 PASS PASS		PASS PASS PASS	f L B E
PARAMETERS MEASURED © VCC = 10V REMARKS: * MEAN	, MOR	S VV MEAN = WORST-CASE (NOT AVG). **DOSES	(NOT	AVG).	**00\$		CONTINUED ON RECORD 2961	0 8	ECORD 2	961.

MANUFACTURER PART NUMBER SPECIFICATION NSC MM54C200		DELINO. PECONO	'ECOKO
PART NUMBER MM54C200		1-128	2961
MM54C200		DATA SOURCE	3CE
	1	1 1 1 1 1 1 1 1	
LDC RAD TYPE PART QTY. BIAS			

	as .
	MEAN SD
	MEAN SD
	MEAN
30K	MEAN SD 145 PASS PASS
20K	MEAN SD 125 PASS PASS
0	MEAN SD 1.2 PASS PASS
CUM.DOSE(RADS):	PARAMETERS ICC(MAX) NA MARCH R/W PING PONG

CONTINUED FROM RECORD 2960. REMARKS: DOSES

PAGE A-216

3700

DATA SOURCE MOTOROLA

SPECIFICATION

PART NUMBER

NATIONAL SEMI MANUFACTURER

BIAS

RAD. TYPE PART QTY.

20

REF.NO. RECORD 2 3700

TECHNOLOGY CMOS

HFX INVERT BUFFER

FUNCTION

GENERIC PART NUMBER

540906

OR OF	IGINAL POOR	PAGE	13
•	· OOR	QUALI	ł Y,

7843 C0-60	09-00		3		VCC1=5V, VCC2=10V	VCC1=5V, VCC2=10V					f ; ; ; ; ; ;	
CUM. DOS	CUM. DOSE (RADS):	•	1		4		¥					
PARAMETERS	ERS	MEAN	SO	MEAN SD		MEAN	SD	MEAN SD	SD	MEAN SD	SD	
NT	 	1.527	.0421	1.342	.0419	FATIF	FATIE	1		1 1 1 1 1	1 1	
TP		-1.82	.0642	-1.89	.0803	-2.00	1160					
10-702		0.000 0.000	000.0	.0065 .0070	0000.	.2317 .2087	.2087					
10-004		0.00	000.0	.0055	.0062	0.222	.2011					

REMARKS:

GENERIC PART NUMBER	_	ION	TECHNOLOGY	LOGY	REF.NO. RECORD	RECORD
540920	256X4 R™		CMOS		1-130	2980
MANUFACTURER	PART	PART NUMBER	SPECIF	SPECIFICATION	DATA SOURCE	JRCE
NSC	MM54C920	920			JPL	 - - - -
LDC RAD. TYPE						
U		VCC=5V.	; ; ; ; ; ; ; ; ;		; ! ! !	1
CUM.DOSE(RADS):	0	300	+. ok	3.0K		
PARAMETERS	MEAN SD	MEAN SD	MEAN SD	! ∑	MEAN	as s
ICC(MAX) * UA MARCH R/W PING PONG	.0072 PASS PASS	.0091 PASS PASS	132 PASS PASS	5900 FAIL		1 1 1 1

REMARKS: * MEAN = WORST-CASE PARAMETER VALUE (NOT AVG.) @ VCC=5V.

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REF.NO. RECORD 1-131 2970

TECHNOLOGY CMOS

FUNCTION IKX 1 RAM

GENERIC PART NUMBER

2970

DATA SOURCE

SPECIFICATION

PART NUMBER

MANUFACTURER

NSC

OR	IGINAL	PAGE	[3
OF	POOR	QUALI	TY

	1	
	1	SD
		MEAN SD
		3K MEAN SD 7500 FAIL FAIL
		MEAN 7500 FAIL
	, , , , , , , , , , , , , , , , , , ,	1K MEAN SD 26 **
	1 1 1 1 1	1K MEAN SD ** 26
	>	300 MEAN SD
BIAS	VCC=5V.	300 MEAN SD 0.056
RAD. TYPE PART QTY. BIAS	4	MEAN SD O.OSG PASS PASS
PAR	i !	MEAN 0.056 PASS PASS
RAD. TYPE	0	35): Al
RAD.	09-00	CUM.DOSE(RADS PARAMETERS ICC(MAX) * UA MARCH
rDc	NONE	CUM.DOSE(RADS): PARAMETERS ICC(MAX) * UA MARCH GALPAT

MEAN=WORST-CASE (NOT AVG.) @VCC=5V. **NOT MEASURED @ THIS DOSE REMARKS: *

GENERIC PARI NUMBER	FUNCTION 1024X1 RAM	AAM	1	TECHN	TECHNOLOGY	>		REF.NO. RECORD 1-132 2990	RECORD 2990	
MANUFACTURER	PART NUMBER	BER		SPE	SPECIFICATION	LION		DATA SOURCE	IRCF	
NSC	MM54C929			!			1	JPL		
LDC RAD. TYPE PART GTY.		BIAS								
-	4	V+ = 15V	5V.						!	
CUM. DOSE(RADS):		æ	. ak	÷	1.0K	က်	3.0K	,	7.0K	
PARAMETERS MEAN	SD M	MEAN	SD	MEAN SD	SD	MEAN SD	as	MEAN	SD	
ICC (MAX) UA 2.5 MARCH PASS GALPAT PASS		ო **		* *		* * 25	; ! !	4800 FAIL		

REMARKS: MEAN = WORST-CASE PARAMETER VALUE (NOT AVERAGE). *NOT MEASURED.

540929	
-:	
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Σ	
⊇	•
z	٠
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-	•
œ	٠
⋖	•
Ω.	÷
	ł
ပ	4
NERIC PART NUMBER	4
\simeq	7
Ľ	+
Z	•

GENERIC PART NUMBER	NUMBER	FUNCTION	ION		TECF	TECHNOLOGY		O.	<u> </u>	RFF NO DECOM	,
540929		RAM		1. 1: 1: 1:	CMOS			701-5		3180	
MANUFACTURER		PART	PART NUMBER		SPEC	SPECIFICATION	NOI	DATA	DATA COUDER		
NATIONAL		MM54C929D	329D					AFWL	FWL-TR-79	AFWL-TR-79-118	
LDC RAD. TYPE		PART OTY.	BIAS								
UNK, C0-60	-	10	VCC=+5/	, 5 W	INPUTS	TIED	TO VCC.	VCC=+5V, 5 W/INPUTS TIED TO VCC, 5 W/INPUTS @ GND	UTS	GND	
CUM. DOSE(RADS):	:		200	o Q	1.5K	χ̈́					
PARAMETERS	MEAN	S	MEAN	SD	MEAN	SO	MEAN				
<u></u>	.0760		9760		. 5650	# 1 1		1	E I	20	
TAC NS	6.920		6.760		6.710						

REMARKS:

GENERIC PART NUMBER		FUNCTION	1	TEC	TECHNOLOGY		<u>~</u>	REF.NO. RECORD	RECORD
34LS00	GATE			LSTTL	1		່ ຫຼັ !	501-2	3190
MANUFACTURER	PART N	PART NUMBER		SPE	SPECIFICATION	NO	70	DATA SOURCE	. 1
11	54LS00	8	1	<u> </u>			¥ .	ARTIN-MARI	MARTIN-MARIETTA
LDC RAD TYPE	YPE PART OTY.								
7826 CO-60	9	CNK.						; ! !	!
CUM.DOSE(RADS):	0		50K	Ş	100K	500K	¥	÷	2
PARAMETERS	MEAN SD		SD	MEAN SD	<u> </u>	MEAN	So	NA H	
TPLH TPHL	3.083 .4082 5.083 .5036	2.833 .3510 5.292 .4872	.3510	2.646 .3753 5.438 .5174		, , ,	3120 5578		3290

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REMARKS: PRE-RAD DATA IS POST LINAC DATA

**************************************	ORIGINAL PAGE 13 OF POOR QUALITY
* - *	

REF.NO. RECORD

TECHNOLOGY TTC

FUNCTION

GENERIC PART NUMBER

DATA SOURCE

SPECIFICATION

PART NUMBER SN54LS00

MANUFACTURER

BIAS VCC=5V, PINS 12,13 AT 3.4V.

RAD. TYPE PART OTY.

LDC S S S

09-00

CUM. DOSE(RADS):	ADS):			\$	100K	9	650K	2.7MEG	EG	,		
PARAMETERS		MEAN	MEAN SD	MEAN SD	SD	MEAN SD	SD	MEAN	SD	MEAN	SO	
**	Y S	172.9	172.9 .9192 17	171.8	1.061	171.8 1.061 170.2 .4950 14 .06 .15 .00	.4950	171.0 0.0	0.0	,	 	
HOOL	Š	756	1	750	1 1	742	1 1	700				
נככר	MA	2.83		2.80	1		2.78	2.70	£ £ 1			
ر م	≥	295.8	295.8 2.217	295.8	2.217		302.5 2.082	301.8 2.217	2.217			
/OH	>	3.058		3.060 0.000	0.000		0.000.0	3.020	0.000			
REMARKS: *AVG. OF IILA & IILB.	AVG.	OF 111	A & IILI	* *	AVG. 0	**AVG. OF IIHA & IIHB	& IIHB					

GENERIC PART NUMBER	PART	NUMBER		FUNCTION	NO		TEC	TECHNOLOGY	. 1	8	REF.NO. RECORD	RECORD
54LS00			, .	NAD P	QUAD NAND GATE	1E	111	 	; ; ; ; ; ;	10		3270
MANUFACTURER	TURER		<u>.</u>	ART	PART NUMBER		SPE	SPECIFICATION	NOI	۵	DATA SOURCE	RCE
11	 		; ;	SN54LS00	200					¥.	MOTOROLA	
רסכ	RAD. TYPE	FYPE	ART	PART OTY.	BIAS			• •				
UNK.	09-00	! !			VCC=E	VCC=5V, PINS 12,13 AT 3.4V	12,13	AT 3.4				
CUM. DOSE(RADS):	E (RADS	:	0			300K	8	2MEG		·		-
PARAMETERS	ERS	MEAN	Z	SD	MEAN	S	MEAN	SD	MEAN	SD	MEAN	SD
111 111 100 100H 100H	42 × 2 2		207.5 .20 269.3 (3.069 911.0	207.5 .7071 .20 .00 .00 269.3 6.397 3.069 .0025 91.0 0.00		.3536 .00 6.055 0.00 0.0	202.5. 7071 .075 .0354 281.0 7.071 3.030 0.000 900.0 0.00	202.5 .7071 .075 .0354 281.0 7.071 3.030 0.000 3.20 0.00				

3430

25-53

AEROJET

DATA SOURCE

SPECIFICATION

PART NUMBER

MANUFACTURER

NSC

OM54LS00J

SO

MEAN

S

MEAN

S

MEAN

S

MEAN

SD

MEAN

PARAMETERS

VOH VOL

6PASS 6PASS 6PASS 6PASS 6PASS 6PASS

6PASS 6PASS 6PASS 6PASS 6PASS

GPASS GPASS GPASS GPASS GPASS GPASS

6PASS 6PASS 6PASS 6PASS 6PASS 6PASS

GPASS GPASS GPASS GPASS GPASS **ICCH AND ICCL ALSO PASSED AT ALL DOSES

REMARKS: *3 PARTS 7716; 3 7710.

328.5K

112.5K

58.5K

13.5K

0

CUM. DOSE (RADS):

SV SUPPLY, TYPICAL-USE CIRCUIT

9

09-00

11111

LDC

BIAS

RAD. TYPE PART GTY.

REF.NO. RECORD

TECHNOLOGY

LSTTL

QUAD 2 INPUT NAND

FUNCTION

GENERIC PART NUMBER

54LS00

ORI	GINAL	PAGE	S
OF	POOR	QUALI	TY

		GENERIC PARI NOMBER	FUNCTION	N	i	TECH	TECHNOLOGY		œ	REF.NO. RECORD	RECOR
54LS00		,	QUAD 2	QUAD 2 INPUT NAND	NAND	LSTTL		L . 1 ' 1 '	7	25-54	3440
MANUFA	MANUFACTURER		PART NUMBER	UMBER		SPEC	SPECIFICATION	NOI	0	DATA SOURCE	JRCE
11		1 	SN54LS00J	000	 			1 6 1 2	A	AEROJET]
CDC	RAD. TYPE		PART OTY.	BIAS							
7629	09-00	! ! ! !	5	UNK.	! ! ! !	; ; ; ; ;	 	† 		! ! !	! ! !
OUM.DO	CUM. DOSE(RADS):	0	_	35	350K				· .		
PARAMETERS	TERS	MEAN	SD	MEAN	S	MEAN	SD	MEAN	SD	MEAN	SD
** VOH ** VOL 111 THL 10S		5PASS 5PASS 5PASS 5PASS 5PASS * 44.0	- 0	SPASS SPASS SPASS SPASS ** 29	- 0	t ; ; ;	 	 	 	! ! !	1 1 1 1 1

### SALSOO QUAD 2-INPUT NAND TTL SN54LSOOU TI SN54LSOOU LDC RAD. TYPE PART QTY. BIAS 7836 CO-60** 6 VCC=+5V. CUM.DDSE(RADS): 0 50K 100 PARAMETERS MEAN SD MEAN SD MEAN PARAMETERS MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD S. 292 . 4769 5. 438 BOTH MEAS.	TECHNOLOGY	RE	REF.NO. RECORD	RECORD
SN54LSOOJ SN54LSOOJ SN54LSOOJ SN54LSOOJ SN54LSOOJ SN54LSOOJ SN54LSOOJ SN54LSOOJ SN54LSOOJ SN54LSOOJ SN54LSOOJ SN54LSOOJ SN54LSOOJ SN64LSOJ SN64LSO		-		5810
SN54LSOOJ RĀD. TYPE PART QTY. BIAS CO-60** 6 VCC=+5V. DDSE(RADS): 0 50K MEAN SD MEAN SD MEAN SD MEAN TIDNALITY 6PASS 6PASS 6PASS *** NS 3.083.34930 5.292.4769 5.433 THE NEAN ST ST ST ST ST ST ST ST ST ST ST ST ST	SPECIFICATION		DATA SOURCE	RCE
METERS MEAN SD SD SD SD SD SD SD S		X	MARTIN	î 1 1 1 1
O 50K MEAN SD MEAN SD MEAN GPASS 6PASS 6PASS 3997 2.833 3436 2.77 5.083 .4930 5.292 .4769 5.433				
MEAN SD MEAN SD MEAN SD MEAN GPASS 6PASS 3997 2.833 3436 2.77 5.083 .4930 5.292 .4769 5.433				
MEAN SD MEAN SD GPASS 3.083 .3997 2.833 .3436 5.083 .4930 5.292 .4769	100K	500K	=	IMEG
6PASS 3.083 .3997 2.833 .3436 5.083 .4930 5.292 .4769	MEAN SD M	MEAN SD	MEAN	as
NS 5.083 4930 5.292 4769 AS.	6PASS 2.771 .7635	6PASS 2.979 .3055		.3221
# 1.3V	5.438 .5065	563 . 5461		

GENERI	GENERIC PART NUMBER		FUNCTION	S		TECH	TECHNOLOGY		C	EF.NO.	REF.NO. RECORD
541.502	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		UAD 2	SUAD 2-INPUT NOR	NOR	111	TTL	i 	7	73	3720
MANUFA	MANUFACTURER		PART NUMBER	UMBER		SPEC	SPECIFICATION	NOI	Ω	DATA SOURCE	URCE
SIGNETICS	Ics	! ! !	SN54LS02	02	! ! !	909958	909958	i 	: I	HUGHES	
TDC	RAD. TYPE PART OTY.	E PART	OTY.	BIAS						:	
S S S S	09-00	 	1 1 1 1 1	VCC=5.5V	50		† 			i i i i i	
CUM. DC	CUM. DOSE (RADS):	0		ř.	3MEG	5	GMEG			!	
PARAMETERS	TERS	MEAN SD	SD	MEAN SD	EAN SD	MEAN SD	S	MEAN	SO	MEAN	! !
111	NA UA	108.4 6.580	5.580		145.4 2.608	142.8	142.8 2.950	† ! !	1 t t 1	i t i i	

REMARKS: **AND LINAC. SPECS: TYP(*)=9NS; TYP(***)=10NS; MAX(*&***)=15NS.

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SPECIFICATION

DM54LS03J

BIAS

PART OTY.

RAD. TYPE

LDC

ល

09-00

7607

PART NUMBER

MANUFACTURER

NSC

TECHNOLOGY

LSTTL

QUAD 2 INPUT NAND

FUNCTION

GENERIC PART NUMBER

54LS03

			OR OF	IGINAL ! POOR (Page is Quali ty
REF.NO. RECORD	DATA SOURCE	 328.5K MEAN SD SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS	**************************************	DATA SOURCE	

SPASS SPASS SPASS SPASS SPASS SPASS

5PASS 5PASS 5PASS

5PASS 5PASS 5PASS 5PASS 5PASS 5PASS

5PASS 5PASS 5PASS 5PASS 5PASS

5PASS 5PASS 5PASS

ICCH 5PASS 5PASS 5PASS SPASS REMARKS: *ICCL WAS ALSO MEASURED AND WITHIN SPEC AT ALL DOSES

S

MEAN

S

MEAN

S

MEAN

S

MEAN

PARAMETERS

VIK *

112.5K

58.5K

13.5K

0

CUM. DOSE (RADS):

5V SUPPLY, TYPICAL-APPLICATION CIRCUIT

GENERIC PART NUMBER	ART NU	MBER	FUNCTION	ION		TECH	TECHNOLOGY	} 5	~~	REF.NO. RECORD	RECORD
54LS03			QUAD	QUAD 2 INPUT NAND	NAND	LSTTL		1 		25-56	3460
MANUFACTURER	ZER		PART	PART NUMBER	÷ .	SPEC	SPECIFICATION	NOIT	۵	DATA SOURCE	RCE
11	# 	# 	SN54LS03J	Soau	† † † †	† !	! ! !	; ; ; ; ;	¥	AEROJET	
). TYP	RAD. TYPE PART QTY.	т оту.	BIAS							
7627 CO-	09-00	 	J.	C NK	 	7 1 6 1 1	; ; ; ;	; t 1 i i t	i ! ! !	• 	; ; ; ;
CUM.DOSE(RADS):	RADS):		0	m	310K						
PARAMETERS		MEAN	SD	MEAN	SD	MEAN	SO	MEAN	SD	MEAN	S
* * * * * * * * * * * * * * * * * * *	 	5PASS 5PASS		SPASS					! 	i i i	! ! ! !
VOL.		5PASS 5PASS		SPASS							
HI		SPASS		SPASS							
		5PASS	2	SPASS	4	, d					
KEMAKKS:	*100F	WAS ALSO	SU MEA.	MEASURED AND ME! SPEC A! ALL DUSES		SPEC A	ALL	DOSES			

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GENERIC PART NUMBER	BER	FUNCTION	NO		TECHIN	TECHNOL DGY	.	A	EF.NO.	REF.NO. RECORD
54LS04		HEX II	HEX INVERTER		LSTTL				25-57	3470
MANUFACTURER		PART	PART NUMBER		SPEC	SPECIFICATION	LION	۵	DATA SOURCE	JRCE
NSC	 	DM54LS04J	304 J) 	1 1 1	1 	! ! ! ! !	! 4	AEROJET	
LDC RAD. TYPE		PART OTY.	BIAS		 			1	1	, , ,
09-00		5	15 V2+	JPPLY,	+5V SUPPLY, TYPICAL-APPLICATION CIRCUIT	-APPL	ICATION	CIRCU	ĪŢ	
CUM. DOSE (RADS):		0	+	13.5K	58.5K	ΣK	-	13K		330K
PARAMETERS	MEAN	SD	MEAN	SD	MEAN	SD	MEAN	SD	MEAN	SD
VIK **	5PASS	 	SPASS		5PASS		SPASS		SPASS	9
HOA	5PASS		SPASS		SPASS		SPASS		SPASS	w
VOL	5PASS		5PASS		SPASS		SPASS		SPASS	ú
II	5PASS		SPASS		SPASS		SPASS		SPAS	'n
HII	5PASS		SPASS		SPASS		SPASS		SPASS	ıo
	SPASS		SPASS		SPASS		SPASS		SPAS	ın
IOS	5PASS		SPASS		SPASS		SPASS		SPASS	ι n
REMARKS: *3 PARTS 7710;	S 771	0: 2 P/	2 PARTS 7724	24. **	ICCH AND	ICCL	ALSO PASSED	SSED	ALL DOSES	SES.

GENERIC PART NUMBER	UMBER	FUNCTION	ION		TEC	TECHNOLOGY		REF.	REF.NO. RECORD	ECORE
54LS04	1 1 5 4 1	HEX II	HEX INVERTER	 	LSTTL		; ; ; ;	25-58	!	3480
MANUFACTURER		PART *	PART NUMBER		SPE	SPECIFICATION	NOI	DATA	DATA SOURCE	Ä
I I	. - - - - -	SN54LS04J	S04J	 	<u>.</u>	 	! ! ! ! !	AEROJET	JET	! !
	RAD. TYPE PART GTY.	Т ОТУ.	BIAS							
7635 C0-60	 		UNK	{ 	: ! ! ! !	- - 	! ! ! ! !	! ! ! !	} 	; ; ; !
CUM.DOSE(RADS):		0	32	350K					-	
PARAMETERS	MEAN	SD	MEAN	SD	MEAN	SD	MEAN	SD	MEAN	S
VIK *	SPASS	t 	SPASS		} 		! ! !	; !	! ! !	
VOL.	5PASS 5PASS		5PASS 5P***							
11	SPASS		SPASS							
ні	5PASS		SPASS							
, T. T.	5PASS	•	5PASS	•						
C7 CN	7	-	07	_						

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GENERIC PART NUMBER	NUMBER	FUNCTION	ION		TECH	TECHNOLOGY		X	F.NO.	REF.ND. RECORD
54LS04		NAND	NAND GATE/INVERTER	/ERTER	LSTTL		1 	77	! ! !	3760
MANUFACTURES		PART	PART NUMBER	 	SPECI	SPECIFICATION	ION	DA	DATA SOURCE	RCE
SIGNETICS		SN54L S04	204		911904	04		! 로 !	HUGHES	! ! ! !
L.DC RAD. TYPE		PART OTY.	BIAS							
:INK . CD-60		2	VCC=5.	VCC=5.5V, ALL OUTPUTS LOW	OUTPU	TS LOW	[! ! ! !	!	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
CUM.DOSE(RADS):	.(S):	0	7	1MEG	æ	3MEG	W 9	GMEG		
PARAMETERS	MEAN	SD	MEAN	SD	MEAN	SD	MEAN	SD	MEAN	SD
ICCL	A 4.620		4.380	 	4.280	! ! ! !	4.100	!	1	1 1
VOL.	v .3051		.3280		.3200		.3240			
YOH	V 3.074	-	3.054		3.056		3.057			
VIL	1.000	•	- 000		1.013		1.013			
ΛIΗ	V 1.185	10	1.230		1.360		1.325			
	UA 142.0	•	158.5		158.0		148.0			
	UA 28.30	-	27.95		28.10		27.85			
REMARKS: *PA	*PARAMETERS CONTINUED ON RECORD	CONTIN	JED ON R		3761.					

GENERIC PART NUMBER	FUNCTION	TECHNOLOGY	REF.NO. RECORD	RECORD
54LS04	NAND GATE/INVERTER	LSTTL	77	3761
MANUFACTURER	PART NUMBER	SPECIFICATION	DATA SOURCE	URCE
SIGNETICS	SN54LS04		; ; ; ; ; ; ; ; ; ; ; ; ; ; ; ; ; ; ;	}
LDC RAD. TYPE PART OTY. BIAS	RT QTV. BIAS	BIAS		

CUM.DOSE(RADS):	RADS):		•		60K	#	1MEG	ିଟ :	3MEG	5	6MEG
PARAMETERS	S	MEAN	EAN SD	MEAN	SD	MEAN	WEAN SD	MEAN SD	OS.	MFAN SD	5
	1 7 1		1 1	1	1				1		1
TPHL *	NS	11.0	5.0	12.8 1.0	,	12.6 3.0	3.0	13.0 2.0	2.0	13.9	<u>, -</u>
TPLH * NS	SN	11.2	11.2 1.0	11.0	0.0	12.0	3.0	12.0	0.0	12.0	o

100

REMARKS: PARAMETERS CONTINUED FROM RECORD 3760. SD=RANGE OF VALUES (NOT S.D.).

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GENERIC PART NUMBER	BER	FUNCTION	NO		TECHN	TECHNOLOGY	_	2	REF.ND. RECORD	RECORD
54LS05	! ! !	HEX IN	HEX INVERTER		LSTTL		I ; 	8	25-59	3490
MANUFACTURER		PART NUMBER	UMBER		SPE	SPECIFICATION	LION	õ	DATA SOURCE	RCE
NSC] } !	DM54LS05J	050	 	† 	! ! !		¥	AEROJET	
LDC RAD. TYPE		PART OTY.	BIAS							1 1 1
7705 CD-60		S	+57 St	JPPLY	+5V SUPPLY TYPICAL-APPLICATION CIRCUIT	-APPLIC	CATION	CIRCUI		
CUM.DOSE(RADS):		•		45K	-	99K	ෆ	315K	ì	,
PARAMETERS	MEAN	SD	MEAN	SD	MEAN	SO	MEAN	S	MEAN	SD
* * XIX	5PASS		SPASS		5PASS		SPASS] - 	
	5PASS		SPASS		SPASS		SPASS			
	SPASS		SPASS		SPASS		SPASS			
	SPASS		SPASS		SPASS		SPASS			
III	SPASS		SPASS		SPASS		SPASS			
וזר	SPASS		SPASS		SPASS		SPASS			
ICCH	SPASS		SPASS		SPASS		SPASS			
SKS: *ICCL	LSO PA	SSED A	ALSO PASSED AT ALL DOSES	JOSES.						

GENERIC PART NUMBER	JMBER	FUNCTION	8		TECH	TECHNOLOGY	>	~	REF.NO. RECORD	RECORD
54LS05	† 	HEX INVER	HEX INVERTER	 	LSTTL	STTL	i i i i i	2	25-60	3500
MANUFACTURER		ままれ NUMBER	IUMBER		SPEC	SPECIFICATION	NOIL	٥	DATA SOURCE	RCE
	! ! !	SNY 41, S05J	050	 	<u>.</u>	 	; ; ; ; ; ;	4	AEROJET	#
2	E PART	PART OTY.	BIAS							
7405 CD-60	; ; ; ;	I	CNK.	; 	! ! !		[]] ! ! !	 	 	 - - - - -
CUM.DOSE(RADS):	0	_	34	310K	-					· [
PARAMETERS	MEAN	SD	MEAN	SO	MEAN	SD	MEAN	SD	MEAN	SD
VIK *	SPASS	<u> </u>	SPASS	l. - - -						
HON	SPASS		SPASS							
J	SPASS		SPASS							
±	SPASS		SPASS							
וור	SPASS		SPASS							
ICCH	SPASS		SPASS	!						
REMARKS: *ICCL	CV - V V V V	V Y 12	MEACHDED AND MET ODED AT ALL DOCED		Cuov					

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GENERI	GENERIC PART NUMBER	JMBER	FUNCTION	UNCTION		TECHN	TECHNOLOGY		œ	REF.NO. RECORD	RECORD
541.508			QUAD	QUAD 2 INPUT AND	AND	LSTTL		: ! ! ! !	. 6	25-62	3510
MANUFA	MANUFACTURER		PART	PART NUMBER		SPEC	SPECIFICATION	NOI	۵	DATA SOURCE	JRCE
1			SN54	SN542.508J] 	[]] 	•	AEROJET	
TDC	RAD. TYPE	E PAI	PART OTY.	. BIAS							
7520	09-00		ľù	CNK.	! ! !	 	1 1 6 1 1 1		! ! ! !	1	! ! ! !
CUM. DO	CUM.DOSE(RADS):		0	(7)	350K						
PARAMETERS	TERS	MEAN	S	MEAN	SO	MEAN	SD	MEAN	SD	MEAN	SD
VIK * VOH VOH VOH III III III III III III III III III I	VOIK * 5PASS VOH 5PASS VOIL 5PASS II 5PASS III 5PASS III 5PASS III 5PASS IOS 5PASS IOS 5PASS	SPASS SPASS SPASS SPASS SPASS SPASS SPASS	35 S S S S S S S S S S S S S S S S S S S	5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS	ASSED.	: : : :	1 	† † 	! ! !	} ! !	t

GENERIC PART NUMBER	JMBER	FUNCTION	NO	;	TECF	FECHNOLOGY		_	REF.NO.	RECORD
54LS10	!	TRIPLE	TRIPLE 3 INPUT NAND	T NAND	LSTT				25-63	3520
MANUFACTURER		PART NUMBER	UMBER		SPEC	SPECIFICATION	NOI	_	DATA SOURCE	RCE
	i I I I	SN54LS 10JA	10UA	 	! ! !	† 			AEROJET	\$ { } { !
LDC RAD. TYPE		PART QTY.	BIAS							
7626 CD-60	 	2	UNK.	# # # # # # #	! ! !] 				
CUM. DOSE (RADS):			35	350K						
PARAMETERS	MEAN	SD	MEAN	SD	MEAN	SD	MEAN	SO	MEAN	SD
VIK * 5PASS VOL 5PASS SPASS VOL 5PASS SPASS II 5PASS IIL 5PASS IIL 5PASS SPASS IIL 5PASS SPASS IIL 5PASS SPASS IIC 5PASS SPASS SPASS SPASS SPASS SPASS SPASS	SPASS SPASS SPASS SPASS SPASS SPASS		SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS	 	; ! ! !	 	[i ! !	! ! ! !	f

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54LS109	
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NUMBER:	
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PART	
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GENERIC	GENERIC PART NUMBER	BER	FUNCT ION	NO	: 	TECH	TECHNOLOGY		æ	REF.NO. RECORD	RECOR
54LS109			DUAL UK FF	X T	 	LSTTL	-	 	5	25-75	3630
MANUFACTURER	TURER		PART NUMBER	NMBER		SPEC	SPECIFICATION	NOIL	۵	DATA SOURCE	JRCE
11	 	! ! !	SN54LS109J	1090	 	! 	i ! !		í ¥	AEROJET	! ! ! !
	RAD. TYPE PART OTY.	PART	OTY.	BIAS							
7702	09-00	 	[UNK.	[]]] 	! ! ! ! ! !		; ; ; ; ; ; ;		i - - -	/
CUM. DOS	CUM. DOSE(RADS):	0			10K	4	40K	130K	×		250K
PARAMETERS	ERS	MEAN	SD	MEAN	SD	MEAN	SD	MEAN	SD	MEAN	S
FUNCTIONALITY		SPASS		5PASS		5PASS	 	: * * 	I. I	SFAIL	
VIK *		SPASS		SPASS		SPASS		SPASS		SPASS	•
YOH		SPASS		SPASS		SPASS		SPASS		SPASS	"
VOL		SPASS		SPASS		5PASS		SPASS		SPAS	
ICC QUIESCENT		SPASS		SPASS		SPASS		SPASS		SPASS	••
ICC DYN		SPASS		EPASS		SPASS		SPASS		SPASS	10
IOS		SPASS		SPASS				5PASS		SPASS	
REMARKS	REMARKS: *IOS II IIH II	THI	HI. II	TH D	TIM PASS ALL	DONES	**0	** DADTS FAILED		TOGGI E TEST	TEST

GENERIC	GENERIC PART NUMBER	ER.	FUNCTION	Z O		TECH	TECHNOLOGY	<u>.</u>	_	REF.NO. RECORD	KECOKO
54LS 138		i i i	3 10 8	3 TO 8 LINE DEMUX	EMUX	LSTTL		1 f 1 1		25-76	3340
MANUFACTURER	TURER		PART NUMBER	IUMBER		SPEC	SPECIFICATION	TION		DATA SOURCE	JRCE
NSC	: 	!	ภพ54LS138ป	1380		i				AEROJET	; ; ;
רםכ	RAD. TYPE		PART OTY.	BIAS							
7644	09-00		5	C NK	! ! !	1 1 1 1 1	{	 	; ; ;	i ; ;	
CUM. DOS	CUM.DOSE(RADS):	0		13.	13.5K	58.5K	χ̈́	112.5K	χ	326	328.5K
PARAMETERS		MEAN	SO	MEAN	So	MEAN	SD	MEAN	SD	MEAN	So
VIH *		PASS		SPASS	! ! !	SPASS	 - - - -	5PASS	: ! [!	SPAS	
VOH NO		SPASS		SPASS		SPASS		SPASS		SPASS	
VOL	U 7	PASS		SPASS		SPASS		SPASS		SPAS	"
II		SPASS		SPASS		SPASS		SPASS		SPAS	•
HII	Δ,	SPASS		SPASS		SPASS		SPASS		SPAS	
IIL		SPASS		SPASS		SPASS		SPASS		SPAS	
108		SPASS		SPASS		55.35		SPASS		SPASS	
02000				# # # # # # # # # # # # # # # # # # #	4						

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GENERIC PART NUMBER	NUMBE		FUNCTION	Z	. :	TECH	TECHNOLOGY	> 5		REF.NO. RECORD	RECORD
54LS138	 	! !	3 10 8	3 TO 8 LINE DEMUX	EMUX	LSTTL		; ; ; ;	! ! !	25-77	3350
MANUFACTURER			PART NUMBER	SMBER	: : :	SPEC	IFIC/	SPECIFICATION		DATA SOURCE	URCE
IL	! ! ! !	!	SN54LS138J	1380	 	; ; ; ;		; ; ; ;	! ! !	AEROJET	
LDC RAD. TYPE	YPE	PART	PART OTV.	BIAS							
7530 CD-60	! ! [.	! !	L	UNK.	; 4 6 1	; ; ; ; ;	; ; ;	; ; ; ; ;] 	 	1
CUM. DOSE (RADS)	· .	0			19K	, in	56K	·	140K		250K
PARAMETERS	¥	MEAN	SD	MEAN	SD	MEAN	SO	MEAN	S	MEAN	SD
VIK *	, R	ASS	 	SPASS] 	SPASS		SPASS		SPASS	S
YOH.	Š	5PASS -		SPASS		SPASS		SPASS	"	SPAS	S
VOI.	2	5PASS		SPASS		SPASS		SPASS		SPASS	S
11	ក្ត	ASS		SPASS		SPASS		SPASS	,,	SPASS	S
HII	ğ	SPASS		SPASS		SPASS		5PAS	•	SPASS	S
111	5	ASS		SPASS		SPASS		SPASS	•	SPASS	S
108	ខ្ល	SPASS		SPASS		SPASS		SPASS		SPASS	S
REMARKS: *ICC ALSO MEASURED;	ALSC	MEA	SURED:	1 DEV	ABOVE	SPEC BY 1MA	1MA	BEFORE	AND A	BEFORE AND AFTER IRRAD	RAD.

GENER	GENERIC PART NUMBER	JUMBER	FUNCTION	NO		TEC	FECHNOLOGY		2	,	RECORD
541.5158	38		OUAD 2	QUAD 2 TO 1 MUX	×	LSTTL				25-78	3360
MANUF	MANUFACTURER		PART NUMBER	UMBER		SPE	SPECIFICATION	ION	ã	DATA SOURCE	3CE
11		; 	SN54LS158J	1580	; 	!	 	; ; ; ; ; ;	. T	AEROJET	
SOT	RAD. TYPE		PART OTY.	BIAS							
7749	09-00		2	+5V, 0	PERAT1	+5V, OPERATING CIRCUIT	SULT	 	 		 - - -
CUM. D	CUM.DOSE(RADS):		0	13.5K	SK X	58	58.5K	112.5K	X	Ö	329K
PARAMETERS	ETERS	MEAN	SD	MEAN	SD	MEAN	S	MEAN	SO	MEAN	SD
VIK *		SPASS		SPASS] 	SPASS] 	SPASS		SPASS	[] [.]-
H0/		SPASS		SPASS		SPASS		SPASS		SPASS	
VO.		SPASS		SPASS		SPASS		SPASS		SPASS	
Π		5PASS		5PASS		SPASS		SPASS		SPASS	
IIH		SPASS		SPASS		SPASS		SPASS		SPASS	
IIL		5PASS		SPASS		SPASS		SPASS		SPASS	
IOS		SPASS		SPASS		SPASS		SPASS		SPASS	
REMARKS:	KS: *ICC	WAS ALSO		MEASURED AND	WAS	WITHIN SPEC	SPEC AT	ALL DO	DOSES.		

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GENERIC PART NUMBER	FUNCTION	NO		TECH	TECHNOLOGY	<u>.</u>	8	F .NO.	REF.NO. RECORD
54LS161	4 BIT	4 BIT BINARY COUNT	COUNT	LSTTL	! ! ! !	1 	25	25-79	3240
MANUFACTURER	PART NUMBER	JUMBER		SPEC	SPECIFICATION	TION	. Q	DATA SOURCE	IRCE
NSC	DM54LS1610	1610	! ! ! !	i i i i	 	! ! ! ! !	AE	AEROJET	[
TYPE	PART OTY.	BIAS							
7724 C0-60		+5v, 0	PERATI	NG CIRC	uIT.	+5V, OPERATING CIRCUIT, 500-KHZ SQUARE-WAVE CLOCK	SQUARE	-WAVE	CLOCK
CUM. DOSE (RADS):	0	13.5K	X	. ທີ່	59K	Ŧ	113K		329K
PARAMETERS MEAN	N SD	MEAN	S	MEAN	SD	MEAN	SD	MEAN	SO
VIK * 5PASS	55	SPASS	- - - - -	SPASS		5PASS		SPASS	
VO SPASS	SS	5PASS		SPASS		SPASS		SPASS	
	SS	SPASS		5PASS		SPASS		5PAS	
IIH 5PASS	SS	SPASS		SPASS		SPASS		SPASS	
	SS	SPASS		SPASS		SPASS		SPASS	
	SS	5PASS		SPASS		SPASS		SPASS	
REMARKS: *ICCH AND ICCL ALSO PASSED AT ALL DOSES	ICCL ALSC	PASSED	AT AL	L DOSES					

GENERIC P	GENERIC PART NUMBER		FUNCTION	Z		TEC	TECHNOLOGY		<u>R</u>	REF.NO. RECORD	RECOR
54LS161	1 1 5 † † † †	4	317 I	4 BIT BINARY COUNT	COUNT	LSTTL		! ! !	120	25-80	3250
MANUFACTURER	RER	PA	Z	PART NUMBER		SPEC	SPECIFICATION	NOIL	ò	DATA SOURCE	RCE
11	 	NS.	SN54LS161J	1610	i 1 1 1		 	 	i ₹	AEROJET	; ; ; ;
	RAD. TYPE	PART OTY.	۲.	BIAS							
7711 00	09-00	O	!	UNK.		; ; ; ; ;	; ; ;	; ; ; ;	; }	; ; ;	
CUM.DOSE(RADS):	RADS):	0		-	19K		56K	44	140K	8	250K
PARAMETERS		MEAN SD	_	MEAN	SD	MEAN	SD	MEAN	SD	MEAN	SD
VIK *	5p	5PASS	!	SPASS	! ! !	SPASS	 	SPASS		SPASS	
0	50	5PASS		SPASS		SPASS		SPASS		SPASS	
II	5P	ASS		SPASS		5PASS		SPASS		SPASS	
IIH	5.	SPASS		SPASS		SPASS		SPASS		SPASS	
IIL	55	SPASS		SPASS		SPASS		SPASS		SPASS	
105	50	SPASS		SPASS		SPASS		SPASS		SPASS	
ICCH	55	5PASS		SPASS		SPASS		SPASS		SPASS	
- CO.+ C.C.			-	111							

RECORD 3640

REF.NO.

TECHNOLOGY LSTTL

GENERIC PART NUMBER

54LS174

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11				1 1		בֿכֿי	i	DAIN SOURCE	ָרָ בּ
	S	SN54LS174J		1	1		¥	AEROJET	1
RAD.	ART		· St						
7636 00-60		CON		; ; ; ; ; ; ; ;	} } ! ! ! !	 	 	! ! !	
CUM.DOSE(RADS)	0		56K	140	140K	45	450K		
PARAMETERS		SD MEAN	OS N	MEAN	SD	MEAN	SD	MEAN	SD
VIK *	5PASS	!	5PASS	5PASS	! ! !	5PASS	! ! ! !)]
HOA	SPASS	SPASS	SSI	SPASS		SPASS			
VOL 1+	SPASS	S S	SPASS	SPASS		SPASS			
HI	SPASS	20.0	SPASS	SPASS		SPASS			
IIL	SPASS	5P/	5PASS	5PASS		5PASS			
ICC REMARKS: *10S	5PASS ALSO MEASURED	••	ISS ST ABOVE	5PASS SPEC BEFORE		SPASS RAD, UN	AFFEC.	5PASS IRRAD, UNAFFECTED BY IRRAD	IRRAD.
GENERIC PART N	NUMBER FU	FUNCTION		TECH	TECHNOLOGY		ā	REF.NO.	RECORD
54LS175	no -	QUAD D FLIP	P FLOP	LSTTL			; 2 ;	25-82	3650
MANUFACTURER	Ą	PART NUMBER	æ	SPEC	SPECIFICATION	NOI	۵		3CE
NSC	NO	DM54LS175J					Ā	AEROJET)
RAD.	TYPE PART QTY.	80	SI						
7722 C0-60	(A)	I NN		! ! ! ! !	 	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	i ! ! !		!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!
					į		i	i	
CUM. DOSE (RADS)	0	1	13K	ŝ	58K	- !	112K	e i	326K
PARAMETERS		SD MEAN	QS N	MEAN	SD	MEAN	SD	MEAN	SD
	5PASS	SPAS	5PASS	5PASS	 	SPASS	[]]	SPASS	
HOA	5PASS	SPA	SPASS	5PASS		SPASS		SPASS	
VGL	SPASS	5PASS	SS	5PASS		SPASS		SPASS	
II	SPASS	5PASS	SSI	SPASS		5PASS		SPASS	
H	SPASS	SPASS	SS	SPASS		SPASS		SPASS	
IIL	SPASS	SPASS	ISS	SPASS		SPASS		SPASS	
SOS									

GENERIC PART NUMBER: 54LS175

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מיונרי די מיונרי די מיונרי מיו					1			l		
54LS175		QUAD D	QUAD D FLIPFLOP	0D	LSTTL			25	25-83	3660
MANUFACTURER		PART NUMBER	UMBER		SPEC	SPECIFICATION	NOI	DA	DATA SOURCE	RCE
	[SN54LS175U	1750	1 1 1 1	† 		j. 1 j. 1	AE	AEROJET	
		PART OTY.	BIAS							
7637	 	מו	NA C	[]]]	! ! !	; ; ; ;	 	1 	- - 	f
CUM. DOSE(RA⊡≘}:		0	ינט	56K	16	140K	4	450K		
PARAMETERS	MEAN SD	S	MEAN	SD	MEAN	SD	MEAN	SO	MEAN	SD
* * * *	SPASS		SPASS		SPASS	i 	SPASS		 	
HON	SPASS			SPASS		SPASS		SPASS		
VOL	SPASS		SPASS		SPASS		SPASS			
II	5PASS		SPASS		SPASS		SPASS			
HII	SPASS		5PASS		SPASS		SPASS			
IIL	SPASS		SPASS		SPASS		SPASS			
IOS	SPASS		SPASS		SPASS SPAS		SPASS			
1 () () () () () () () () () (

GENERIC PART NUMBER	KT NUM		FUNCTION	N N		TECH	TECHNOLOGY		2	REF.NO. RECORD	RECOR
541520	i F I L L	 	VAND G	NAND GATE/INVERTER	ERTER	LSTTL		! [! ! !	78	 	3750
MANUFACTURER	ER		PART NUMBER	UMBER		SPEC	SPECIFICATION	NOI	20	DATA SOURCE	SCE
NATIONAL	i 1	 	SN54L S20	20	 	911933	933	1 - - - -	; ₹	HUGHES	
	RAD. TYPE		PART OTY.	BIAS							
UNK. CD-60	09	្ត	! ! !	VCC=5.	5V, AL	VCC=5.5V, ALL OUTPUTS LOW	TS LOW	 	i 	1 1 1 1	! !
CUM.DOSE(RADS):	ADS):	0		¥ !	1MEG	6	3MEG	8 9	6MEG.		
PARAMETERS		MEAN	SD	MEAN	SD	MEAN	SD	MEAN	SD	MEAN	SD
HON	: :: >:	3, 100	! ! !	3.100	! ! !	3.100	; 	3.095			
VOL	>	.2800		.2915		. 2890		. 2910			
VIH	>	1.195		1.200		1, 185		1.197			
VIL	>	.9650		.9550		.9550		.9620			
ICCL	Æ	1.635		1.590		1.579		1.565			
105		80.00		78.00		77.00		76.50			
111	Ą	195.5		195.0		193.0		191.5			
DEMADING											

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GENERIC PART NUMBER	JMBER	FUNCTION	NO		TEC	TECHNOLOGY		22	EF.NO.	REF.NO. RECORD
54LS21		DUAL 4	DUAL 4 INPUT AND	AND	LSTT	1			25-67	3530
MANUFACTURER		PART N	PART NUMBER		SPE	SPECIFICATION	NOI		DATA SOURCE	URCE
I	 	SN54L521J	321A	[!	1 1 1 1 1 1 1	; ; ; ;		AEROJET	! ! ! ! !
LDC RAD. TYPE		PART OTY.	BIAS							
7429 C0-60	1	S.	UNK.		1 	1 1 1 1 1 1	 	! ! !	 	
CUM.DOSE(RADS):			35	350K					-	
PARAMETERS	MEAN	SD	MEAN	S	MEAN	S	MEAN	S	MEAN	QS
VIK *	5PASS	 	5PASS		! ! ! !	1 	1 1 1 1	 	1	
VOH	SPASS		SPASS							
VOL	SPASS		SPASS							
H	SPASS		SPASS		•					
IIH	5PASS		SPASS							
IIL	SPASS		SPASS						•	
IDS	SPASS		SPASS							
DEMADKS. *ICCH ICCI THI TIH	TOUT TH	I =	WFRF AT	SO MF.	ASURED	WERE ALSO MEASURED AND MET SPEC AT ALL DOSES	SPEC	A A I	DOSES	

	GENERAL PARI NUMBER		LONC: TON	2		TEC	I ECHNOLOGY		צ	KEL.NU. KECUKU	SECURI
54LS244	! ! ! ! ! !	 	OCTAL	OCTAL BUFFER/DRIVER	DRIVER		 		1062	25	5640
MANUFACTURER	CTURER		PART NUMBER	UMBER		SPEC	SPECIFICATION	NOI	DAT	DATA SOURCE	RCE
II	1: 1 1 1 1	† † †	SN54LS244	244	 		 	 - - - - - -	TRE		! ! !
CDC	RAD. TYPE		PART QTY.	BIAS							
7836	C0-60 + N*		10	VCC=+5V		 	1 5 1 1) 	 	: 1. 1. 1.	4
CUM. DO	CUM.DOSE(RADS):			*N-200K	Š						
PARAMETERS	TERS	MEAN	SD	MEAN	SD	MEAN	SD	MEAN	SD	MEAN	SD
V0L3	>W	232.5	8.22	236.4	9.23		 			 	
VOL5	≥	229.5	7.57	233.2	8.44						
VOL7	≥	228.8	8.13	232.1	9.05						
VOL9	≥	224.4	18.04	229.3	18.67						
VOL 12	¥	235.5	7.20	238.7	7.65						
VOL 14	¥	229.9	6.64	233.8	7.27						
F											

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GENERIC PART NUMBER	ART NUR		FUNCTION	N		TECHNOL	TECHNOLOGY		REF.NO	REF.NO. RECORD
541.5244	2	_	OCTAL E	OCTAL BUFFER/DRIVER	RIVER	111			1062	5641
MANUFACTURER	RER		PART NUMBER	JMBER		SPEC	SPECIFICATION	NO	DATA SOURCE	URCE
I) 	SN54LS244	244						
LDC RA	RAD. TYPE	RAD. TYPE PART QTY. BIAS	OTY.	BIAS						
CUM.DOSE(RADS):	RADS):	0		N+200K	¥				* · .	
PARAMETERS	S	MEAN SD	S	MEAN SD	SD	MEAN	SS	MEANS	SD MEAN	QS 7
VOL 16 VOL 18	¥ ¥ ¥	239.2 14.51 234.6 6.45	14,51	238.4 7.86 238.2 6.63	7.86					

REMARKS: CONTINUATION OF RECORD 5640.

GENERIC	GENERIC PART NUMBER	3ER	FUNCTION	z		TEC	TECHNOLOGY		RE	F . NO.	REF.NO. RECORD
5415244	; 1 1 1 1 1 1 1 1 1 1 1	i ! !	OCTAL B	3UFFER/	OCTAL BUFFER/DRIVER	111	 	; ; ; ; ;	0	1071	5730
MANUFACTURER	TURER		PART NUMBER	JMBER		SPEC	SPECIFICATION	NOI	DA	DATA SOURCE	JRCE
I_] / !	SN54LS244	244	 	; 8. 1. 4. 4.	! ! ! !	\ ; ; t	TRW	T.R.E.	
LDC	RAD, TYPE PART QTY.	PART	OTY.	BIAS							
! ! ! *	CO-60 + N*		10	VCC=+5V	٧٠.	: 	1 	; ; ! ! !	1 	i 	; ; ; ;
CUM, DOS	CUM, DOSE (RADS):		ا د	*N+100K	Š.	*N+300K)OK	*N+500K)OK		
PARAMETERS	. –	MEAN	SS	MEAN	SO	MEAN	SD	MEAN	SD	MEAN	SD
*** II	PA	3291.	9100.	5548	107 18	5704.	10279		11859		
*** HZ0I	¥:	350.1	708.4	353.7	708.5	313.8	721.0		708.7		
*** HOA	₹ ≥	2527.	91.71	2532.	2532. 92.47	2539.	92.43		92.43		
VOL ***	> 1	324.0	324.0 26.75	322.3	27.90	323.9	323.9 28.04		324.0 27.86		

REF.NO. RECORD

TECHNOLOGY

FUNCTION
OUAD 2-INPUT X-NOR

GENERIC PART NUMBER 54LS266

DATA SOURCE

SPECIFICATION

PART NUMBER

MANUFACTURER TI

ÖRİ	GINAL	PAGE	:5
ÖF	POOR	QUALI	TY

				· 安全 安全 安全 安全 安全 安全 安全 安全 安全 安全 安全 安全 安全		ÖRİ ÖF	GINA POO	IL P	AGE UAL	is in			
!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!				+ + + + + + + + + + + + + + + + + + +	RECORD	3540	€CE			; ! !			
			MEAN	# # # # # # # # # #	REF.NO.	25-68	DATA SOURCE	AEROJET		; ; ; ; ; ;		EA	元
1		450K	SD		œ	. 2	Ω	¥		 	450K	SD	L DOSES.
			MEAN	SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS		1 1 1 1 1 1	NOIL			r 1 9 1 1 1	45	MEAN	SPASS SPASS SPASS SPASS SPASS SPASS SPASS
1		140K	SD	!	TECHNOLOGY		SPECIFICATION			; ; ; ; ;	140K	SD	MET SPEC
				SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS	TECH	LSTTL	SPEC			 	14	MEAN	SPASS SPASS SPASS SPASS SPASS SPASS SPASS
1		56K	i	* * * * * * * * * * * * * * * * * * *		T NOR		 		 	56K	SO	SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS
	UNK.		MEAN	S PASS S PASS S PASS S PASS S PASS S PASS S PASS S PASS S PASS S PASS S PASS S PASS S PASS S PASS S PASS S PASS S PASS S PASS S PASS S PASS S PASS S PASS S PASS S PASS S PASS S PASS S PASS S PASS S PASS S PASS S PASS S PASS S PASS S PASS S PASS S PASS S PASS S PASS S PASS S PASS S PASS S PASS S PASS S PASS S PASS S PASS S PASS S PASS S PASS S PASS S PASS S PASS S PASS S PASS S PASS S PASS S PASS S PASS S PASS S PASS S PASS S PASS S PASS S PASS S PASS S PASS S PASS S PASS S PASS S PASS S PASS S PASS S PASS S PASS S PASS S PASS S PASS S PASS S PASS S PASS S PASS S PASS S PASS S PASS S PASS S PASS S PASS S PASS S PASS S PASS S PASS S PASS S PASS S PASS S PASS S PASS S PASS S PASS S PASS S PASS S PASS S PASS S PASS S PASS S PASS S PASS S PASS S PASS S PASS S PASS S PASS S PASS S PASS S PASS S PASS S PASS S PASS S PASS S PASS S PASS S PASS S PASS S PASS S PASS S PASS S PASS S PASS S PASS S PASS S PASS S PASS S PASS S PASS S PASS S PASS S PASS S PASS S PASS S PASS S PASS S PASS S PASS S PASS S PASS S PASS S PASS S PASS S PASS S PASS S PASS S PASS S PASS S PASS S PASS S PASS S PASS S PASS S PASS S PASS S PASS S PASS S PASS S PASS S PASS S PASS S PASS S PASS S PASS S PASS S PASS S PASS S PASS S PASS S PASS S PASS S PASS S PASS S PASS S PASS S PASS S PASS S PASS S PASS S PASS S PASS S PASS S PASS S PASS S PASS S PASS S PASS S PASS S PASS S PASS S PASS S PASS S PASS S PASS S PASS S PASS S PASS S PASS S PASS S PASS S PASS S PASS S PASS S PASS S PASS S PASS S PASS S PASS S PASS S PASS S PASS S PASS S PASS S PASS S PASS S PASS S PASS S PASS S PASS S PASS S PASS S PASS S PASS S PASS S PASS S PASS S PASS S PASS S PASS S PASS S PASS S PASS S PASS S PASS S PASS S PASS S PASS S PASS S PASS S PASS S PASS S PASS S PASS S PASS S PASS S PASS S PASS S PASS S PASS S PASS S PASS S PASS S PASS S PASS S PASS S PASS S PASS S PASS S PASS S PASS S PASS S PASS S PASS S PASS S PASS S PASS S PASS S PASS S PASS S PASS S PASS S PASS S PASS S PASS S PASS S PASS S PASS S PASS S PASS S PASS S PASS S PASS S PASS S PASS S PASS S PASS S PASS S PASS S	NO	3 INPUT	UMBER	.27J	BIAS	CNK.		! !	SPASS SPASS SPASS SPASS SPASS SPASS SPASS
	ر ا		SD	* * * * * * * * * * * * * * * * * * *	FUNCTION	TRIPLE	PART NUMBER	SN54LS27J	PART OTY.	i i	:	i	
1			i :	SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS	NUMBER	! ! !	-			!	0	MEAN	SPASS SPASS SPASS SPASS SPASS SPASS SPASS
	7421 CD-60	CUM.DOSE(RADS):	PARAMETERS	VIK 5PASS 5PASS 5PASS SPASS VIL 5PASS 5PASS 5PASS SPASS II 5PASS 5PASS 5PASS 5PASS 1 SPASS 5PASS	GENERIC PART NU	54LS27	MANUFACTURER	. I	LDC RAD. TYPE	7637 C0-60	CUM.DOSE(RADS):	PARAMETERS	VIK * 5P/ VOH 5P/ VOL 5P/ II 5P/ III 5P/ III 5P/ III 5P/ III 5P/ III 5P/ III 5P/ III 5P/ III 5P/ III 5P/ III 5P/ III 5P/

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GENERIC PART NUMBER: 54LS279	*
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GENERIC PART NUMBER	UMBER	FUNCTION	NO		TECH	TECHNOLOGY		R	F.NO.	REF.NO. RECORD
54LS279		QUAD	QUAD SR LATCH	† 	LSTTL			25	25-85	3290
MANUFACTURER		PART NUMBER	IUMBER		SPE(SPECIFICATION	NOI	DA	DATA SQURCE	IRCE
11	 	SN54LS279J	2790	[} 		; t i i i) 	AE	AEROJET	; ; ; ;
LDC RAD, TYPE		PART OTY.	BIAS							
7752 C0-60	! 	1	+5V 0P	ERATI	+5V OPERATING CIRCUIT	TIL	; ; ; ; ;	! ! !	! ! !	; 1 1 1 1
CUM.DOSE(RADS):			13. SK	<u>}</u> ;	58	58.5K	112.5K	¥	(r)	329K
PARAMETERS	MEAN	SD	MEAN	SD	MEAN	SD	MEAN	So	MEAN	as
VIK *	SPASS		SPASS	! ! !	SPASS	 - 	SPASS	! !	SPASS	
HOA	SPASS		SPASS		SPASS		SPASS		SPASS	
VOL	SPASS		SPASS		SPASS		SPASS		SPASS	
II	SPASS		SPASS		SPASS		SPASS		SPASS	
HII	SPASS		SPASS		5PASS		SPASS		SPASS	
IIL	SPASS		SPASS		SPASS		SPASS		SPASS	
108	SPASS		SPASS		SPASS		5PASS		SPASS	
REMARKS: *ICC WAS ALSO	WAS ALSO	MEASU	MEASURED AND	WAS	WITHIN SPEC	SPEC AT		ES.		

GENERI	GENERIC PART NUMBER	JMBER	FUNCTION	NO		TEC	TECHNOLOGY		ā	REF.NO.	_	
54LS30			B INPU	8 INPUT NAND	! ! ! !	LSTTL	1	: : : : :	} &i }	25-69	3550	
MANUFACTURER	CTURER		PART NUMBER	UMBER		SPE	SPECIFICATION	NOI	۵	DATA SOURCE	JRCE	
11	 	 	SN54LS30J	300	; ; ; ; ; ;	!	; ; ; ;	 - 	A	AEROJET	! ! !	
rpc	RAD. TYPE		PART OTY.	BIAS								
7408	09-00		L	UNK.] 	! ! ! !	; ; ; ;	, ; ; ; ;	; ; ;	; ; ! !) ; ; ;	
CUM. DO	CUM.DOSE(RADS):		0	35	350K							
PARAMETERS	TERS	MEAN	SD	MEAN	SD	MEAN	S	MEAN	SD	MEAN	SD	
* TY		SPASS	i i i	SPASS	‡ - - - -	[]]]	t 1 1 1 1	 	} ; ; ; ;	; ! ! !	! ! ! !	
7		SPASS		SPASS								
II HII		5PASS 5PASS		SPASS								
111		SPASS		SPASS								
IOS	IOS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SP	SPASS TCC: TF		SPASS SERVE ALSO MEASURED AND MET SPEC AT ALL DOSES	SO MEA	ClipEn	AND MET	SPEC	1 At 1	DOSES		
	i :			1		1			1			

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S

MEAN

S

MEAN

140K

MEAN

56K

MEAN

SD

MEAN

PARAMETERS

0

CUM. DOSE (RADS):

5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 6PASS

 VIK
 *
 5PASS
 5PASS
 5PASS

 VOH
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	GENERIC PART NUMBER	FUNCTION	Z	: : :	TECHNOLOGY	JLOGY	, , , ,	22	REF.NO.	RECORD	
	54LS324	VCD			LSTTL			52	25-86	3300	
	MANUFACTURER	PART NUMBER	JMBER	; !	SPECIF	SPECIFICATION	2	۵	DATA SOU	SOURCE	
	1	SN54L5324J	324 J					AE	AEROJET		
	RAD. TYPE	PART OTY.	BIAS								
	7612 C0-60	I	UNK.	<u> </u> 	r 1 1 1 1 1	1] 	! ! !	! ! ! ! !	1 1 1 1 1	
	CUM.DOSE(RADS):	0	19K		56K	v	140K	×		250K	
	METERS	SD	_	N OS	i ! !	S	MEAN	SD	MEAN	SO	
	VIK * 5PASS	 	SPASS	: ID IG	5PASS SPASS	. U) U.	SPASS		SPASS	 	
			SPASS	ומו	SPASS	ונטו	SPASS		SPASS		
	II SPASS		SPASS	וו טו	SPASS	33 L	SPASS		SPASS		
		0 (0	SPASS	ט נט	PASS	יש כו	PASS		SPASS		
	10S SPASS ALCC WAS ALSD			MET SPE	SPASS SPEC AT ALL	00	5PASS FS		5PASS		
*) *) * ! *	***	***	* * * * * * * * * * * * * * * * * * * *	* * * * *	***	* * * * * * * * * * * * * * * * * * * *	***	* * * * * *	1. 张林林安排张老张林林林林林林	*
	GENERIC PART NUMBER	FUNCTION	2		TECHNOLOGY	LOGY		RE		RECORD	
	54LS37	QUAD 2-	2-INPUT NAND	Q	LSTTL		-	25	25-71	3560	
	MANUFACTURER	PART NUMBER	JMBER		SPECIF	SPECIFICATION	2	. 0	DATA SOURCE	RCE	
		SN54LS37J	J.7.	! ! !		! !		AE	AEROJET	† ! ! !	
	LDC RAD. TYPE PAR	PART OTY.	BIAS								
	7720 C0-60	TO.	UNK.	1 1 1 1 1 1 1			1	1	!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!	1 1 1	
		L.									

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GENERI	GENERIC PART NUMBER	UMBER	FUNCTION	ION		TECHN	TECHNOLOGY		REF.NO.	REF.NO. RECORD	
54LS393	e		DUAL	DUAL 4BIT COUNTER	NTER	LSTTL			25-87	3310	
MANUFA	MANUFACTURER	: - 	PART	PART NUMBER		SPEC	SPECIFICATION	LION	DATA SOURCE	JURCE	
FSC			54LS393J	931	4.				AEROJET		
LDC	RAD. TYPE		PART OTY.	BIAS							
7735	09-00		2	UNK							
CUM, DÛ	CUM. DOSE(RADS):	•	6	*	¥6		56K	140K		250K	
PARAMETERS	TERS	MEAN	SS	MEAN	SD	MEAN	SO	¦ _	SD MEAN	QS P	
VIK *		. SPASS		SPASS	! !	SPASS	! E ! !	5PASS	SPAS	SS	
HO/		SPASS		SPASS		SPASS		SPASS	SPASS	SS	
VOL		SPASS	ıs	SPASS		SPASS		5PASS	SPA	35	
II		SPASS	ıc	SPASS		SPASS		SPASS	SPA	53	
HII		SPASS	ın	SPASS		SPASS		SPASS	SPA	SS	
IIL		SPASS	w	SPASS		SPASS		5PASS	5PA	25	
105		SPASS	ın	SPASS		SPASS		SPASS	SPASS	SS	
REMARK	REMARKS: *ICC WAS ALSO	WAS ALS	SO MEAS	MEASURED AND	MET	SPEC AT	ALL DOSES.	OSES.			

GENERI	GENERIC PART NUMBER	FUNCTION	NO		TECH	TECHNOLOGY		Œ	REF.NO. RECORD	RECORD
5415395		4-BIT	4-BIT SHIFT REGISTR	EGISTR	Ŧ	 - - 	; ! ! ! !	, - -	1063	5650
MANUFA	MANUFACTURER	PART NUMBER	UMBER		SPEC	SPECIFICATION	NOI	u	DATA SOURCE	RCE
11	F 1 2 2 4 F 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	SN54LS395A	S395A	; ; ;	!	1	; 1 1 1 1	• 10-7 1 1	FRE	
rpc	-	RT OTY.	BIAS							
8004	*N + 09-00	10	VCC=+5.0V	.00.	# 	[; 		; ; ; ; ;	} { } f f
CUM. DO	CUM. DOSE(RADS):	0	*N+200K	.		i	:	;	1	;
PARAMETERS	 	MEAN SD	MEAN	S	MEAN	SO	MEAN	SO	MEAN	SD
VOL 13 VOL 13 VOL 15	MV 310. MV 310. MV 310. MV 274.	312.9 11.68 308.7 4.322 310.3 5.417 312.8 4.541	. 	5.646 4.761 5.400 4.378	 		! ! ! !		 	1 [

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REMARKS: *NEUTRON RAD. = 7.06E11 N/SQCM.

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GENERIC	GENERIC PART NUMBER		FUNCTION	NO.		TECF	TECHNOLOGY		2	:F.NO.	REF.NO. RECORD
54LS74		,	DUAL-D-FF	1111	! ! ! !	LSTTL	LSTTL) <u>.</u> .	501-4	2950
MANUFACTURER	TURER		PART NUMBER	UMBER		SPEC	SPECIFICATION	NOI	Ŏ	DATA SOURCE	IRCE
Į.		1. 1. 1.	54LS74	; ; ; ; ; ; ;	† 	!	 	i i . i	W.	MARTIN-MARIE	MARTIN-MARIETTA
\$1.00 	RAD. TYPE		PART OTY.	BIAS							
7834	09-00	 	9	UNK.	 	1 1 1 1 1	 		! ! !	1 1	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
CUM. DOS	CUM.DOSE(RADS):	0			50K	5	100K	50	500K		1MEG
PARAMETERS	ERS	MEAN	SD	MEAN	S	MEAN SD		MEAN	SD	MEAN	SD
TPLH TPHL	N N S S	10.25 .4523 10.92 .2887	. 4523	10.13 .3108	.3108	10.54 10.52	10.52 . 1946	10.58	10.58 .5573 11.04 .3343	10.21	10.21 .4502

REMARKS: PRE-RAD DATA IS POST LINAC DATA

GENERIC	GENERIC PART NUMBER	MBER	FUNCTION	No.		TECH	TECHNDLOGY		R	F . NO .	REF.NO. RECORD
541574		! ! !	DUAL D	DUAL D FLIP-FLOP	-L0P	TTL	 	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	 	1103	5830
MANUF	MANUFACTURER	•	PART NUMBER	UMBER		SPEC	SPECIFICATION	ION	DA	DATA SOURCE	RCE
F	:	! ! !	SN54LS74AJ	74AJ	; 1 1 4 #		[[]]]		MA	MARTIN	1
rpc	RAD. TYPE	PART	PART OTY.	BIAS							
7834	**09-00	! !	9	VCC=+5V.	. Ne	 	!	! ! !	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	!	# # # #
CUM. DC	CUM.DOSE(RADS):	O			50K	5	100K	50	500K	-	IMEG
PARAMETERS	ARAMETERS	MEAN	SO	MEAN	SO	MEAN	SD	MEAN	So	MEAN	EAN SD
FUNCT I	FUNCTIONALITY TPLH * NS	6PASS	4330		2976	6PASS	1 000	6PASS	A226	6PASS	1 6
TPHL ***	**	10.92	10.92 .2764	10.86	.2165	10.92	1863	10.0	3200	20.5	3227
BOT+	BOTH MEAS.							•	1		i i
ii	=1.3V.										

***SPEC: TYP=25NS, MAX=40NS. *SPEC: TYP=13NS, MAX=25NS. REMARKS: **AND LINAC.

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GENERI	GENERIC PART NUMBER	NUMB	ER.	FUNCTION	NOI	1	TECH	rechnology	٨.	æ	EF.NO.	REF.NO. RECORD
54LS85	! ! ! !	! ! !	! !	4 BIT	4 BIT COMPARATOR	ATOR	LSTTL			. Ki	25-73	3230
MANUFACTURER	CTURER			PART	PART NUMBER		SPE	SPECIFICATION	NOIT	۵	DATA SOURCE	JRCE
TI	† [] []		!	SN54L	SN54LS85J	; ; ;	i - -	; ; ; ;	; ; ; ; ; ;	V	AEROJET	1 1 1 1 1 1
TDC	RAD. TYPE	YPE		PART OTY.	BIAS			٠.				
7629	09-00	! !		ı.	+5V,	WORST-(+5V, WORST-CASE CIRCUIT	RCUIT	; []]]]	- - - 	 	
CUM. DO	CUM.DOSE(RADS):	<i>:</i> :	0	_	8	2.5K	0	10.0K	7	40 X	13	130K *
PARAMETERS	TERS	. ≥	MEAN	SO	MEAN	SD	MEAN	S	MEAN	SD	MEAN	SD
YOH	i 		5PASS		SPASS	† † †	5PASS		SPASS] - - -	SPASS	S
VOL		ß	PASS		SPASS		SPASS		SPASS		SPAS	S
11		נט	PASS		SPASS		SPASS		SPASS		SPAS	S
IIH		ເກ	5PASS		SPASS		SPASS		SPASS		SPAS	:
111		п	PASS		SPASS		SPASS		SPASS		SPAS	S
TOS		מ	SPASS		SPASS		SPASS		SPASS		SPASS	s
100		L)	SPASS		SPASS		SPASS		SPASS		SPAS	S
REMARK	S: *ALL	PAR	AMETE	RS PA	REMARKS: *ALL PARAMETERS PASSED AT FINAL	FINAL	CUM DOSE OF	SE OF	250K.			

GENERIC PART NUMBER		FUNCTION	2		TEC	TECHNOLOGY		R	F.NO.	REF.NO. RECORD
54LS86	:	SUAD EXCLU	QUAD EXCLUSIVE-OR	/E-0R	I	11. T. T. T. T. T. T. T. T. T. T. T. T. T.	! ! ! !	74	74	3740
MANUFACTURER		PART NUMBER	JMBER		SPE	SPECIFICATION	NOI	DA	DATA SOURCE	RCE
SIGNETICS	; ! ! ! !	541.586	! ! ! !	 	911932	911932		: : :	HUGHES	
LDC RAD. TYF	RAD. TYPE PART OTY.	OTY	BIAS							. 1
UNK. C0-60	; = ·	. LO	VCC=5.	VCC=5.5V, RL=2K	= 2K	} 	 	 	 	,
CUM.DOSE(RADS):			=	1MEG	<u> </u>					
PARAMETERS	MEAN SD	SD	MEAN SD	SD	MEAN SD	AN SD	MEAN	SD	MEAN	1
TIL	486.2 6.620 461.3 4.972	6.620	461.3	4.972		443.3 4.038	(! ! !	

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54LS95	
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NUMBER:	
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NERIC PART NUMBER	
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GENER	GENERIC PART NUMBER	N. S.		FUNCTION	NO	:	TEC	TECHNOLOGY	>		REF.NO. RECORD	RECORD
54LS95	LO.			4BIT F	4BIT PARALLEL SHIFT	L SHIFT	LSTTL	1-1-1	! ! !	1	75	3710
MANUFACTU	MANUFACTURER			PART NUMBER	JUMBER		SPEC	SPECIFICATION	LION		DATA SOURCE	RCE
SIGNETICS	rics			SN54LS95B	928	; ; ; ; ; ; ;	912906	906	1		HUGHES	1
LDC	RAD. TYPE	TYPE	PART	PART OTY.	BIAS							
CNK	09-00		ស		VCC=+5V	20	; ; ; ;	1	! !	1	1	1
CUM. DO	CUM. DOSE (RADS):	s):	0) f l	1	Ξ	: 1	æ		E	•	15M
PARAMETERS	TERS	Σi	MEAN	SD	MEAN	SD	MEAN	SD	MEAN	SO	MEAN	as
VIH		> 1	.601		1.577	 - - - -	1.594]]]	1.586	ļ	1.574	i - - - -
V11		- (. 563		1.546		1.552		1.554		1.544	
Z 2		ກ `` > >	2.058		3.042 .2236		3.030		3.030		3.037	

REMARKS:

GENERIC PART NUMBER	MBER FUNCTION	TION	TECHNOLOGY	<u>></u>	REF.NO. RECORD	RECOR
54LS95	4-BI	4-BIT PARALLEL SHIF	LSTTL		75	3780
MANUFACTURER	PART	PART NUMBER	SPECIFICATION	TION	DATA SOURCE	JRCE
FAIRCHILD	SN54L	SN54LS95B	912906		HUGHES	
LDC RAD. TYPE	E PART QTY.	_				
UNK. CD-60		VCC=+5V		# 	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	1
CUM.DOSE(RADS):	0	IMEG	3MEG	6MEG		
PARAMETERS	MEAN SD	MEAN SD	MEAN SD	MEAN SD	MEAN	as
VIH V V VOL VOL V	1.096 1.058 3.005		1.076 1.052 2.978 .2884	1.080 · 1.038 · 2.988 · 2.904		t 1 1 1

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GENERIC PART NUMBER	CUMBER	FUNCTION	NO		TEC	FECHNOLOGY		2	REF.NO. RECORD	RECORD	
54LS95		4BIT	4BIT PARALLEL SHIFT	SHIF	LSTTL		4 1 1 1	7	75	3790	
MANUFACTURER		PART	PART NUMBER		SPE	SPECIFICATION	NOI.	۵	DATA SOURCE	RCE	
TEXAS INS.		SN54L S95B	395B	, 	912906	906	1	I I	HUGHES	1	
a .		PART OTY.	BIAS								
UNK. CD-60			VCC=+5V	34] 	! ! !	!	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	
CUM.DOSE(RADS):			#	1MEG	ě.	3MEG	5	GMEG	<u>.</u>	15MEG	
PARAMETERS	MEAN	SD	MEAN	SD	MEAN	SD	MEAN	SD	MEAN	SD	
VIH V	1.167	 	1, 198	; ; ; ;	1.202	1	1.204	1 1 1	1.205	1	
\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	2.991		2.954		2.962		2.938		2.961		

GENERIC PART NUMBER	MBER FUNCTION	NO		TEC	TECHNOLOGY		2	F.NO.	REF.NO. RECORD
54L00	GATE			111	}]]) -	501-3	3200
MANUFACTURER	PART	PART NUMBER		SPE	SPECIFICATION	NOI	0	DATA SOURCE	JRCE
TI	54100	 		1 1	 	1	¥ .	MARTIN	MARTIN MARRIETT
	E PART QTY.	BIAS							
7726 CD-60	1 1 1 1 1 1 1 1 1	UNK.	i !	1	 	1	; ; ; ;		
CUM.DOSE(RADS):	0	50K		¥	100K	ŭ	500K		
PARAMETERS	MEAN SD	MEAN SD		MEAN	SD	MEAN	AN SD	MEAN	SD
TPLH NS TPHL NS	35.63 4.189 51.33 9.407	33.46 4.149	149	33.29 4.17	33.29 4.175	34.79	34.79 4.374		

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GENERIC PART NUMBER	FUNCTION	ION		TECH	TECHNOLOGY	/	REF	REF.NO.	REF.NO. RECORD
541.00	QUAD	QUAD Z INPUT NAND	NAND	Ë			25-	25-44	3380
MANUFACTURER	PART	PART NUMBER		SPEC	SPECIFICATION	NOI	DAT	DATA SOURCE	RCE
1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	SN54L00	000	 	1 1	 	; ; ; ; ;	AEF	AEROJET	i 1 1 1
RAD. TYPE	PART OTY.	BIAS							
7620 C0-60	4	SVDC	! ! !	: : : : : :			; ; ; ;		
CUM.DOSE(RADS):	•	ល	50K	16	160K	350K	¥		
PARAMETERS MEAN	SD	MEAN	SD	MEAN	SD	MEAN	SD	MEAN	S
VOH * 4PASS	! ! !	4PASS	! ! ! !	4PASS	1	4PASS		; ; ;	 - - - -
VOL 4PASS		4PASS		4PASS		4PASS			
	"^	4PASS		4PASS		4PASS			
	"	4PASS		*		***			
	"	4PASS		4PASS		4PASS			
	"	4PASS		4PASS		4PASS			
ICCH 4PASS	10	4PASS		4PASS		4PASS			
REMARKS *TCCI PASSED	*	FATE - 18114 (SPEC= 1011A)	(SPEC=	1010	14C***	***2FATI - 2611A 2711A	27114		

GENERIC PART NUMBER	NUMBER	FUNCTION	Z.		TEC	TECHNOLOGY		RE	F.NO.	REF.NO. RECORD
54L00	1 f f i i i	QUAD 2-INPUT NAND	-INPUT	NAND	1	E 1 1 1 1 1	: ! ! !	=	1102	5820
MANUFACTURER		PART NUMBER	JMBER		SPEC	SPECIFICATION	NOI	DA	DATA SOURCE	RCE
IL	1 1 1 1 1 1 1	SN54L00T	TC	i i i i i i	i !	i ! ! !	; ; ; ;	MA	MARTIN	1
	RAD. TYPE PART OTY.	r 0TY.	BIAS							
7726 C0-60**	 	9	VCC=+5V.		; ; ; ;	 		 	; ; ;	†
CUM.DOSE(RADS):	s):	•	.LO	50 K	¥	100K	ŭ	500K	•	1MEG
PARAMETERS	MEAN			SO	MEAN		MEAN	SD	MEAN	SD
FUNCTIONALITY TPLH * NS		4.101	6PASS 33.46 4.062	4.062	6PASS 32.04	6PASS 32.04 7.802	6PASS 34.79	6PASS 34.79 4.282	6PASS 34.637	7.005
TPHL *** NS BOTH MEAS.		51.33 9.209	45.50	14.86	50.71	8.667	53.29	8.843	54.58	9.046
@ VENABLE =1.3V.		:								

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GENERI	GENERIC PART NUMBER	IBER	FUNCTION	NO	1	TECHNO	TECHNOLOGY		RE	F. NO.	REF.NO. RECORD
541.02			QUAD 2	QUAD 2-INPUT NOR	NOR	1 1 1			72	; 	3730
MANUFA	MANUFACTURER		PART NUMBER	UMBER		SPECI	SPECIFICATION	NOI	DA	DATA SOURCE	JRCE
NATIONAL		! ! !	SN541.02	2	1 	909943	E 1	 - - - 	! 로 !	HUGHES	†
LDC	RAD. TYPE	PART	PART OTY.	BIAS							
CNK.	09-00	! !	2	VCC=5.5V	5V	; ; ; ; ; ; ;	 	; - - - -] ; ; ; ; ;	; ; ; ;]
CUM. DO	CUM.DOSE(RADS):		•	2	1MEG	3MEG	9	0	GMEG		
PARAMETERS	TERS	MEAN		MEAN	SD	MEAN SD	SD	MEAN	SD	MEAN	SD
IIH1 IIH2 IIL	444	. 1358 . 1125 112.6	1358 .0255 1125 .0189 112.6 2.395	1.394 1.014 .4500 .1710 112.0 2.139	1.394 1.014 4500 .1710 112.0 2.139		2.216 1471	5.030 2.05 .7335 .130 111.4 2.18	5.030 2.051 .7335 .1304 111.4 2.183	·	

REMARKS:

GENERI	GENERIC PART NUMBER	WBER	FUNCTION	NO:		TECH	TECHNOLOGY			REF.NO. RECORD	RECORD
54103		1 	QUAD 2	QUAD 2 INPUT NAND	NAND	E	 	 	. 2	25-45	3390
MANUFA	MANUFACTURER		PART NUMBER	UMBER		SPE(SPECIFICATION	TION	_	DATA SOURCE	JRCE
TI		1 ! !	SN54L03J)3J	; 	; ; ;	 	; ; ; ; ; ; ;	. 4	AEROJET	; 1 1 1 1
TDC	RAD. TYPE		PART OTY.	BIAS							
7701	09-00	; ; ;		UNK L	! ! ! ! !	; { { } }	 	;] 	! ! !	
CUM.DO	CUM.DOSE(RADS):	:	0		56K	7	140K	45	450K		i
PARAMETERS	TERS	MEAN	SD	MEAN	SD	MEAN	SD	MEAN	SD	MEAN	SD
IOH	[SPASS	 	5PASS	 	SPASS	† 	SPASS] 	t i i	; ; ;
VOL		5PASS		SPASS		SPASS		SPASS			
Ξ		5PASS		5PASS		SPASS		SPASS			
HII		SPASS		SPASS		SPASS		SPASS			
IIL		SPASS		SPASS		SPASS		SPASS			
ICCH		SPASS		5PASS		SPASS		5PASS			
ICCL		SPASS		SPASS		SPASS		SPASS			
REMARKS	:S:										

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3: 54L	****
NUMBE	****
IC PART	*****
GENER	***

	ב הא	FUNCTION FUNCTION	NOIL		TECH	TECHNOLOGY	>		REF.	2	REF.NO. RECORD
54L04		H H	HEX INVERTER		111	 		; 	25-46	r	3400
MANUFACTURER		PART	PART NUMBER		SPEC	SPECIFICATION	TION		DATA	DATA SOURCE	SCE
11	 	SN54L04J	.040	; ; ; ;	! ! !	! ! !	 		AEROJET	JET .	! ! !
LDC RAD. TYPE		PART OTY.	BIAS								
7646 CD-60	i 	വ	UNK.		 	! ! !	• • • • •		 	 	! ! !
CUM. DOSE(RADS):		0	9	310K							
PARAMETERS	MEAN	SD	MEAN	SO	MEAN	SD	MEAN	88	:	MEAN	SD
VIK * VIK * VOL II III III III REMARKS: *ICCH	SPASS SPASS SPASS SPASS SPASS SPASS SPASS	三	SPASS SPASS SPASS SPASS SPASS SPASS TLH WERE	!	ALSO MEASURED AND MET SPEC AT ALL DOSES	D AND	- LE	PEC /			

### AFOK AFOW AFROJET ### AFOK AFOW AFROJET ### AFOW AFROJET ### AFOW AFROJET ### AFOW AFROJET ### AFOW AFROJET ### AFOW AFROJET ### AFOW AFROJET ### AFOW AFROJET ### AFOW AFROJET ### AFOW AFROJET ### AFOW AFROJET ### AFOW AFROJET ### AFOW AFROJET ### AFOW AFROJET ### AFOW AFROJET ### AFOW AFROJET ### AFOW AFROJET ### AFOW AFROJET ### AFOW AFROJET ### AFOW AFROJET ### AFOW AFROJET ### AFOW AFROJET ### AFOW AFROJET ### AFOW AFROJET ### AFOW AFROJET ### AFOW AFROJET ### AFOW AFROJET ### AFOW AFROJET ### AFOW AFROJET ### AFOW AFROJET ### AFOW AFROJET ### AFOW AFROJET ### AFOW AFROJET ### AFOW AFROJET ### AFOW AFROJET ### AFOW AFROJET ### AFOW AFROJET ### AFOW AFROJET ### AFOW AFROJET ### AFOW AFROJET ### AFOW AFROJET ### AFOW AFROJET ### AFOW AFROJET ### AFOW AFROJET ### AFOW AFROJET ### AFOW AFROJET ### AFOW AFROJET ### AFOW AFROJET ### AFOW AFROJET ### AFOW AFROJET ### AFOW AFROJET ### AFOW AFROJET ### AFOW AFROJET ### AFOW AFROJET ### AFOW AFROJET ### AFOW AFROJET ### AFOW AFROJET ### AFOW AFROJET ### AFOW AFROJET ### AFOW AFROJET ### AFOW AFROJET ### AFOW AFROJET ### AFOW AFROJET ### AFOW AFROJET ### AFOW AFROJET ### AFOW AFROJET ### AFOW AFROJET ### AFOW AFROJET ### AFOW AFROJET ### AFOW AFROJET ### AFOW AFROJET ### AFOW AFROJET ### AFOW AFROJET ### AFOW AFROJET ### AFOW AFROJET ### AFOW AFROJET ### AFOW AFROJET ### AFOW AFROJET ### AFOW AFROJET ### AFOW AFROJET ### AFOW AFROJET ### AFOW AFROJET ### AFOW AFROJET ### AFOW AFROJET ### AFOW AFROJET ### AFOW AFROJET ### AFOW AFROJET ### AFOW AFROJET ### AFOW AFROJET ### AFOW AFROJET ### AFOW AFROJET ### AFOW	GENERI	GENERIC PART NUMBER	MBER	FUNCTION	NC		TECH	TECHNOLOGY		∝	REF.NO. RECORD	RECOR
PART NUMBER SPECIFICATION DATA SOURCE	54L 10			TRIPLE	3 INPU	T NAND	11.		 	2	5-47	34 10
E PART QTY. BIAS 5 UNK. 6 56K 140K 450K MEAN SD MEAN MEAN SPASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PA	MANUFA	CTURER	- 1	PART N	UMBER		SPEC	IFICA	NOI	٥	ATA SOL	JRCE
E PART QTY. BIAS 5 UNK. 450K MEAN SD MEAN SD MEAN SD SPASS SPASS	11		. - 	SN54L1	70	i 	 	; () ;	! ! ! ! !	 	EROJET	
5 UNK. 0 56K 140K 450K MEAN SD MEAN SD MEAN 5PASS 5PASS 5PASS 5PASS 5PASS	רםכ	RAD. TYP		OTY.	BIAS							
O 56K 140K 450K MEAN SD MEAN SD MEAN SPASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS	7603	09-00		 ! !	CNK.	; 	 	; 	; { } } ;	i ! !	; 	1
MEAN SD MEAN SD MEAN 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS	CUM.DO	SE(RADS):			. a	6K	4	¥	45	Š		
5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS	PARAME	TERS	MEAN	SD	MEAN	SD	MEAN	SD	MEAN	SD	MEAN	S
5 PASS 5 PASS 5 PASS 5 PASS 5 PASS 5 PASS 5 PASS 5 PASS 5 PASS 5 PASS 5 PASS 5 PASS 5 PASS 5 PASS 5 PASS 5 PASS 5 PASS 5 PASS	* HOA		SPASS	 - -	SPASS	 - - 	SPASS	1 1 1	SPASS	! ! !	; ! ! !	1 " " 1 1
5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS	11		SPASS		SPASS		SPASS		SPASS			
5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS	HII		5PASS		5PASS		5PASS		SPASS			
5PASS 5PASS 5PASS 5PASS 5PASS 5PASS	IIL		SPASS		SPASS		SPASS		SPASS			
SPASS SPASS	IOS		SPASS		SPASS		SPASS		SPASS			
	ICCH		SPASS		SPASS	!	SPASS		SPASS			

GENERI	GENERIC PART NUMBER	BER	FUNCTION	NO	;	TECH	TECHNOLOGY	·	C	EF.NO.	REF.NO. RECORD
54120		! !	DUAL 4	DUAL 4 INPUT NAND	NAND	11.		; ; ; ; ;	C3 	25-48	3420
MANUFA	MANUFACTURER		PART N	PART NUMBER		SPE	SPECIFICATION	TION	۵	DATA SOURCE	URCE
11	# 	1	SN54L20J	Po		i !	; f 1 1 1	; } 	4	AEROJET	
LDC	RAD. TYPE		PART OTY.	BIAS							
7627	09-00		្រ	UNK.		 	1 1 1 1	; t t !		i f ! !	1
CUM. DC	CUM. DOSE(RADS):			'n	310K						
PARAMETERS	TERS	MEAN	SD	MEAN	S	MEAN	SD	MEAN	SD	MEAN	
* * * * * * * * * * * * * * * * * * *	100 ± 3 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	SPASS SPASS SPASS SPASS SPASS SPASS	1 1 1 1 1	SPASS SPASS SPASS ** FPASS ** FPASS SPASS FPASS	1 1 1 1	[! ! ! !	1 1 1 1	; ! !		1 1 1 1
REMARK	REMARKS: *ICCL ALSO PASSED	LSO PA	SSED.	Nn e**	TS: (PR	E). 1<1	IH<.3U/	**3 UNITS:(PRE).1 <iih<.3ua;(post)3<iih<8ua;spec=10u< td=""><td>)3<iih< td=""><td>1<8UA; SI</td><td>PEC= 101</td></iih<></td></iih<.3ua;(post)3<iih<8ua;spec=10u<>)3 <iih< td=""><td>1<8UA; SI</td><td>PEC= 101</td></iih<>	1<8UA; SI	PEC= 101

GENERIC PART NUMBER	UMBER	FUNCTION	NO.		TECH	TECHNOLOGY		č	EF.NO.	REF.NO. RECORD
541.72	1 1 1 1 1	OK MAS	UK MASTER SLAVE FF		111	 	; [] ! !	; ;;	25-49	3590
MANUFACTURER		PART NUMBER	IUMBER		SPEC	SPECIFICATION	NOI	۵	DATA SOURCE	RCE
JSC	 	DM54L72J	2.7	! ! ! !	! ! ! !	! ! !	 	Ā	AEROJET	
LDC RAD. TYPE		PART OTY.	BIAS							
7615 00-60		ລ	+5V AF	PLICAT	+5V APPLICATION CIRCUIT	CUIT			 	
CUM.DOSE(RADS):		0	12.75K	75K	42.50K	Š	97.75K	ž Ž	301.	301.75K
PARAMETERS	MEAN	S	MEAN	SD	MEAN	SD	MEAN	SO	MEAN	SD
VOH	SPASS	 	SPASS	 	SPASS	 	* -			! ! !
VOL	SPASS		5PASS		SPASS		*		•	
	SPASS		SPASS		1FAIL		*		*	
H	SPASS		SPASS		1FAIL		* *		* *	
IDS	SPASS		SPASS		SPASS		f *			
1001	SPASS		SPASS		5PASS		*		•	
REMARKS: *ADDITIONAL PARAMETRIC FAILURES	TIONAL	PARAMET	RIC FAI		AS CUM DOSE INCREASED	DOSE	NCREASE	<u>.</u>		

OR	GINAL	PAGE	15
OF	POOR	QUALI	TY,

								******	0	RIGI F P	NAL OOR	PA QU	ge i Alm	S , Y ,			
•	25-49 3600	DATA SOURCE	AEROJET				:	5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS	~	501-5 3000	DATA SOURCE	MARTIN-MARIETTA				MEAN SD	42 74.08 3.423 01 113.3 11.67
TECHNOLOGY	TTL	SPECIFICATION			DN CIRCUIT	112.	SD	5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS	TECHNOLOGY	TTL	SPECIFICATION				100K	SD MEAN	69.00 3.593 73.00 3.742 104.6 5.219 110.5 11.01
FUNCTION	UK MASTER SLAVE FF	PART NUMBER	DM54L72U	RT QTY. BIAS	5 +5V APPLICATION CIRCUIT	0 12.75K	SD MEAN SD	5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS	FUNCTION	DUAL-D-FF	PART NUMBER	54L74	RT OTY. BIAS	6 UNK.	ເດ	SD	4.338 68.08 3.397 8.361 101.4 9.268
GENERIC PART NUMBER	54L72	MANUFACTURER	NSC	RAD. TYPE PA	09-00 **	CUM. DOSE(RADS):		VOH 5PASS VOL 5PASS II 5PASS IIL 5PASS IOS 5PASS ICC 5PASS ICC 5PASS ICC 5PASS REMARKS: ** 3 PARTS 7	GENERIC PART NUMBER	54174	MANUFACTURER	11	LDC RAD, TYPE PAR	09-00		PARAMETERS MEAN	NS 66.5
								* * * * * * * * * * * * * * * * * * *									

REMARKS: PRE-RAD DATA IS POST LINAC DATA.

DUAL D FLIP FLOP TTL SN54L74J SPECIFICATION SN54L74J 450K 5 UNK. 5 UNK. 5 MEAN SD 8DASS SPASS 5FASS SPASS	GENER I	GENERIC PART NUMBER		FUNCTION	NO		TECH	TECHNOLOGY		2	EF.NO.	REF.NO. RECORD
ACTURER PART NUMBER SPECIFICATION	541.74	1 1 1 1 1 1 1 1	!	DUAL D	FLIPF	LOP	E			7	5-51	3620
RAD. TYPE PART QTY. BIAS CO-60 5 UNK. CO-60 5 UNK. OSE(RADS): 0 56K 140K 450K RETERS MEAN SD MEAN SD MEAN SD SPASS 5PASS 5	MANUFA	CTURER		PART N	UMBER		SPEC	IFICAT	NOI	۵	DATA SOURCE	JRCE
CO-60	11	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	! ! !	SN54L7	4.0	, 	! !	1 1 1 1 1	i i i ! !	₹ !	AEROJET	
CO-60 5 UNK. 140K 450K	CDC	RAD. TYPE		OTV.	BIAS		1					
METERS MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD SPASS SPASS SPASS SPASS SPASS SPASS	7630	09-00		rc C	C SK		·					
MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD SPASS SPASS SPASS SPASS	CUM. DO	SE(RADS):	U		w	9	4	¥	45	X S		1
5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS 5PASS	PARAME	TERS	MEAN	SD	MEAN	SD	MEAN	SD	MEAN	as	MEAN	SO
SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS		 	SPASS	t ! !	SPASS		SPASS	 - - 	SPASS			
SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS SPASS	VOL		SPASS		SPASS		SPASS		SPASS			
SPASS SPASS SPASS SPASS 5PASS 5PASS SPASS 5PASS 5PASS	II		SPASS		SPASS		SPASS		SPASS			
SPASS SPASS SPASS SPASS SPASS	HII		SPASS		SPASS		5PASS		SPASS			
5PASS 5PASS 5PASS	IIL		SPASS		SPASS		SPASS		SPASS			
	ICC		SPASS		SPASS		SPASS		SPASS			

REMARKS:

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					:	1
GENERIC PART NUMBER	BER FUNCTION	NO	TECHNOLOGY		REF.NO. RECORD	RECORD
54L74	DON	DUAL D FLIP-FLOP	- 111		1104	5840
MANUFACTURER	PART N	PART NUMBER	SPECIFICATION	ION	DATA SOURCE	RCE
	SN54L74T	747	6 6 6 6 6 6 6 7 7	; ; 1 ; 1 ; 1 ; †	MARTIN	
LDC RAD. TYPE	PART QTY. BIAS	BIAS				
7730 C0-60**	9	VCC=+5V.	• • • • • • • • • • • • • • • • • • •	1 1 1 1 1 1 1		
CUM. DOSE (RADS):	0	20K	100K	500K	-	1MEG
PARAMETERS	MEAN SD			MEAN SD	MEAN	05
	6PASS 66.5 4.153	6PASS 68.1 3.252	6PASS 69.0 3.440	6PASS 73.0 3.582		6PASS 74.08 3.278
TPHL *** NS	94.9 8.005	101.4 8.874	104.6 8.827	110.5 10.		
© VENABLE						

REMARKS: **AND LINAC. SPEC: TYP=65NS, *MAX=100NS, ***MAX=150NS.

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GENER	GENERIC PART NUMBER	MBER	FUNCTION	NO	٠.	TEC	TECHNOLOGY		ĒΣ	REF.NO.	-
54193	<u>-</u>		4 BIT	BIT BINARY COUNT	COUNT	1	 	; 	1 8	25-52	3220
MANUFA	MANUFACTURER		PART NUMBER	IUMBER		SPE	SPECIFICATION	NOIL	۵	DATA SOURCE	JRCE
I.	 	f t t	SN54L93U	30	, 	i ! !			₹ !	AEROJET	[
LDC	RAD. TYPE		PART OTY.	BIAS							
7618	09-00	 		UNK.		; ; ; ;	; ; ; ;	; ; ; ;	 		; ; ; ;
CUM. DC	CUM.DOSE(RADS):				19K	•	56K	14	140K	•	250K
PARAMETERS	TERS	MEAN	SD	MEAN	SD	MEAN	S	MEAN	SD	MEAN	SS
YOY	1 1 1 1 1	SPASS		SPASS	 	SPASS	!	5PASS	 	15 A S	1
VOL		SPASS		SPASS		SPASS		SPASS		5P S	
II		SPASS		SPASS		SPASS		5PASS		SPAS	"
HII		SPASS		SPASS		SPASS		5PASS		SPAS	10
וסר		SPASS		SPASS		SPASS		SPASS		SPAS	"
ICC		5PASS		SPASS		SPASS		SPASS		SPAS	
IOS	·	SPASS		SPASS		SPASS		SPASS		SPASS	
KEMAKKS:											

GENERIC	GENERIC PART NUMBER	BER	FUNCT 10N	NO O		TEC	TECHNOLOGY		2	REF.NO. RECORD	RECOR
548140	 	: ! !	DUAL 4	DUAL 4 INPUT NAND	NAND	STTL		; ; ; ; ;	2	25-90	3320
MANUFACTURER	TURER		PART NUMBER	IUMBER		SPEC	SPECIFICATION	NOIL	20	DATA SOURCE	JRCE
11	 	! ! !	SN5481400	400	!	1	 	- 	¥	AEROJET	
LDC	RAD. TYPE		PART QTY.	BIAS							
7727	09-00	l 	2	CNK.	! 	; 	i 	; ; ; ;	! ! !	Î 	! ! !
CUM. DOS	CUM.DOSE(RADS):	0			56K	4	140K	4	450K		
PARAMETERS		MEAN	SD	MEAN	SD	MEAN	S	MEAN	SD	MEAN	SS
VIK *	1	5PASS	† - - -	SPASS	! ! !	SPASS	 	SPASS	1 1 1 1	i : :	
NOH		SPASS		SPASS		5PASS		SPASS			
VOL		5PASS		SPASS		SPASS		SPASS			
II		SPASS		SPASS		SPASS		SPASS			
IIH		SPASS		SPASS		SPASS		SPASS			
IOL		SPASS		SPASS		SPASS		SPASS			
IOS		SPASS		SPASS		SPASS		5PASS			
REMARKS	DEMADIKS: *ICC(CLITESCENT)	TECORE	T) UAC		7017	The City Carried to Color		4 4 6 C C C C C C C C C C C C C C C C C		-	

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3: 545186	****
IC PART NUMBER	****
GENERIC	*****

GENERIC PART NUMBER	JMBER	FUNCTION	NO		TEC	TECHNOLOGY	>	ΩŽ	REF.NO. RECORD	ECORD	
545188	! ! !	32X8 PROM	ROM	 	STTL	 		1 8	25-91	3370	
MANUFACTURER		PART NUMBER	IUMBER		SPEC	SPECIFICATION	TION	۵	DATA SOURCE	E C	
	! : !	SN545188AU	88AU		!	! ! ! !	; 	. ∢	AEROJET	! ! !	
LDC RAD. TYPE		PART OTY.	BIAS								
7808 CD-60	t 		UNK		† 	; ; ;	Î 	; ; ; ;	 	ì 	
CUM. DOSE (RADS):	, ;	0		65K	₩	120K	Ř	340K			
PARAMETERS	MEAN	SD	MEAN	SD	MEAN	SD	MEAN	SD	MEAN	SD	
VIK	5PASS	1 	5PASS	f 	5PASS	! ! !	5PASS	 	! ! !	 	
VOL	SPASS		SPASS		SPASS		SPASS				
IOH	5PASS		SPASS		SPASS		SPASS				
II	SPASS		SPASS		*		1FAIL				
IIH	SPASS		SPASS		¥		1FAIL				
	SPASS		SPASS		*		1FAIL				
ICC	5PASS		SPASS		SPASS		SPASS				
REMARKS: * 1FAIL	.:II=6.	7MA (SPE	C=1MA).	11H=5	BOUA (SPI	c=25U	A), IIL=9	9.3UA(*+FAIL:II=6.7MA(SPEC=1MA);IIH=590UA(SPEC=25UA),IIL=9.3UA(SPEC=-250UA)	OUA).	

54S74 MANUFACTURER TI	DUAL								
MANUFACTURER		DUAL D FLIPFLOP		STTL			N N	25-89	3670
· · · · · · · · · · · · · · · · · · ·	PART	PART NUMBER		SPECI	SPECIFICATION	NOIL	Ω.	DATA SOURCE	RCE
*	SN54	SN54S74J	! ! !	! ! ! !	! !	 	&	AEROJET	
LDC RAD. TYPE	PART QTY.	. BIAS							
7723 C0-60		UNK.	1 1 1 1	1 1 1 1 1 1	i ! !	i ! ! ! ! !	 - 	; 	! ! !
CUM.DOSE(RADS):	0	19K		56K	¥	14	140K		250K
PARAMETERS MI	MEAN SD	MEAN	SD	MEAN	SD	MEAN	SD	MEAN	SO
· ·	PASS	SPASS		SPASS	 	SPASS		SPASS	
VOH 51	SPASS	SPASS		SPASS		SPASS		SPAS	
	PASS	SPASS		SPASS		SPASS		SPAS	••
	5PASS	SPASS		5PASS		SPASS		SPAS	
	SPASS	SPASS		SPASS		SPASS		SPAS	••
	EPASS	5PASS		SPASS		SPASS		SPASS	,,
	5PASS	SPASS		SPASS		SPASS		SPAS	
REMARKS: *ICC WAS	WAS MEASURED	AT 34MA	BEFORE	AND AFTER		IRRADIATION		(MAX SPEC=25MA)	3=25MA

	GINAL		
OF	POOR	QUALI	TY.

GENERIC PART NUMBER		FUNCTION	TECHNOLOGY	V 0.05V	DE NO	RECORD
1	ı					
54172	> >	MASTER-SLAVE	FF TTL		25-50	3610
MANUFACTURER	PART	T NUMBER	SPECIF	SPECIFICATION	DATA SO	SOURCE
 	SNE	SN54L72J			AEROJET)
. DO	PART O	. <u>.</u>				
7646 C0-60	14	UNK.	;	• • • • • • • • • • • • • • • • • • •	; ; ; ; ;	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
1						
CUM. DOSE(RADS):	0	TOK	40K	130K	; ; ; ;	250K
PARAMETERS	MEAN SD	MEAN	MEAN	AN	E E	₽
NON	14PAS	14PAS	14PAS	14PAS	14PA	S
VOL	14PAS	14PAS	14PAS	14PAS	14PAS	S
H .	14PAS	14PAS	14PAS	14PAS	14PA	S
HIL	14PAS	14PAS	14PAS	14PAS	14PAS	S
100	24044	04741 0404	147AV	24747	474	ภูเ
105	14PAS	14743	14745	14745	1404	ָט פַ
REMARKS:)) : :			?
GENERIC PART NU	**************************************	**************************************	**************************************	:*************************************	**************************************	*******
11111111111			******		1111111	1 1 1 1 1 1
54500	NAND	ID GATE/INVERTER	TER STTL		16	3770
MANUFACTURER	PAR	PART NUMBER	SPECIF	SPECIFICATION	⋖	SOURCE
	SNS	SN54S00	909902		HUGHES	1
LDC RAD. TYPE	E PART OTY					
UNK. CD-60	S	VCC=5.5V	, ALL OUTPUTS	LOW	1 } ! ! !	1
CUM. DOSE(RADS):	•	IMEG				SMEG
PARAMETERS	MEAN SD	MEAN SD	MEAN	SD MEAN	SD MEAN	OS I
Σ	24.20	24.00	24.00		24.00	1
VIL	. 8000 1 360	.7750	. 7650	. 7400	8300	Öñ
	2000	0.430	. 44.0	. 430	3 060	n (
	.3940	3960	3980	3980	. 4040	2 0
IIL	1.620	1.620	1.600	1.580	1.600	0.0
ARKS:	00.00	9.50	00.	03.89	0.00	2

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GENERIC PART NUMBER	UMBER	FUNCTION	NO		TEC	TECHNOLOGY		Ω	FF	RFF NO DECORD
5501	i 1 F f I	1024X1 RAM	RAM	1	CMD	CMDS/SDS	; ; ; ;	: 100	802	1540
MANUFACTURER		PART NUMBER	IUMBER		SPE	SPECIFICATION	NOI	Ĉ	DATA SOLIDGE	יייטור
RCA	! ! ! !	MWS5501D	10	Î + - - -	COM	COMMERCIAL		1	GSFC PPM	
LDC RAD. TYPE PART QTY. BIAS	PE PAR	Т ОТУ.	BIAS							
_	20		+100		1		1			1
CUM.DOSE(RADS):		0		×		4 7				
PARAMETERS	MEAN SD	S	MEAN SD	EAN SD	MEAN	SO	MEAN SD	SO	MEAN	5
FUNCTIONALITY	20 PASS	1 f i t	10 FAIL	! ! !	13 FAT!		1			

REMARKS:

GENERIC PART NUMBER		FUNCTION	NO.		TEC	FECHNOLOGY	<u>.</u>	_	SEF. NO.	REF. NO. RECORD	
5501	1 &	RAM	 	! ! !	CMO	CMDS/SOS			701-3	3280	
MANUFACTURER	ָ בַּ	ART N	PART NUMBER		SPE	SPECIFICATION	NOIT	_	DATA SOURCE	URCE	
RCA	1 2 5	#WS5501D	5	! !	!		1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	-	FWL-TR	AFWL-TR-75-118	
LDC RAD. TYP	RAD. TYPE PART OTY.	OTY.	BIAS								
	10	!	VCC=5/	/: 5 H	D VCC	TO INP	VCC=5V; 5 HAD VCC TO INPUTS, 5 HAD INPUTS AT GND	HAD IN	PUTS A1	CND	
CUM.DOSE(RADS):	0	; ! ;	1	ž		¥		ş			
PARAMETERS	MEAN	SD	MEAN	SD	MEAN	SD	MEAN	SO	MEAN	SD	
ICC2 MA IOL MA IOH MA TAC NS	. 099 14.40 6,410 77.00	W. A	1.390 14.20 5.730 74.00	.f 	1.890 13.50 5.030 75.00		2.260 13.00 4.850 81.60	t 1 1 2,	! ! !		

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GENERIC PART NUMBER	UNMBER	FUNCTION	NO		TECHN	TECHNOLOGY	>	~	REF.NO. RECORD	RECORD
55180		DUAL NAND	AAND		11) 	! ! ! !	2	25-92	3580
MANUFACTURER		PART N	PART NUMBER		SPEC	SPECIFICATION	TION	۵	DATA SOURCE	RCE
	1	SN55180L	30L	 	; ; !	} { { } {	, 	¥	AEROJET	
LDC RAD. TYPE		PART OTY.	BIAS							
P7701 C0-60	! ! !	60	CNK.	i ! ! ! !	 	† - - - -	; ; ; ;	f] 	! ! ! !
CUM. DOSE(RADS):		0	2	2.5K	*** 	S		40 X	130	130K *
PARAMETERS	MEAN	SD	MEAN	SD	MEAN	SD	MEAN	OS I	MEAN	SS
VOL	BPASS	 	8PASS	i i i i	BPASS	 	8PASS	S	BPASS	! ! !
11	8PASS		BPASS		8PASS		8PASS	S	8PASS	
	BPASS		8PASS		BPASS		8PA	Š	8PASS	
HII	8PASS		8PASS		BPASS		8PASS	Ŋ	8PASS	
IIL	BPASS		8PASS		8PASS		8PASS	Ŋ	BPASS	
ICCL	BPASS		BPASS		8PASS		8PASS	Ŋ	8PASS	
ICCH	8PASS		8PASS		8PASS		8PAS	Ñ	BPASS	
REMARKS: *ALL PARAMETERS WITHIN SPECIFIED LIMITS AT FINAL CUM DOSE OF 250K DAD	PARAMET	ERS WIT	HIN SPE	CIFIED	LIMITS	AT F	INAL	UM DOSE	0F 250	N DAD

GENER	GENERIC PART NUMBER	MBER	FUNCTION	N.		TEC	TECHNOLOGY		RE	F. NO.	REF.NO. RECORD
555		 	TIMER	1 	 	BIP(BIPOLAR	; ; ; ;	64	64	3030
MANUF	MANUFACTURER		PART NUMBER	UMBER		SPEC	SPECIFICATION	NOI	Ď	DATA SOURCE	JRCE
NATIONAL	NAL	 	LMSSSH	1	1	i !	 		1 11	IRT CORP	
LDC	RAD. TYPE PART OTY.	E PART	. 0TV.	BIAS							
C	09-00	1	9	UNK.	 		 	, 	; ; ! !	; ; ; ;	
CUM. DO	CUM.DOSE(RADS):	J		25	500K	-	1.25M				
PARAMETERS	ETERS	MEAN	SO	MEANS	SO	MEAN	SD	MEAN	SD	MEAN	SD
4 D	SD >	23.23 .2338	2338	23.87	. 6218	24.37	1.109	; ; ;	; ; ; ;	: ! ! !	
P.O.	KH2	38.10	.7328	39.32	.9845	33.98	2.81				

REMARKS:

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⋖	*
PART	*
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GENERIC	*****
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Φ	*

555 MANUFACTURER	!						, , ,		
MANUFACTURER	E I			BIPOLAR	IPOLAR	; ; ; ; ;	CA	25-93	3330
*************	PART N	PART NUMBER		SPEC	SPECIFICATION	NOIL		DATA SOURCE	URCE
Ľ	SESSEL	f 	1 1 1 1 1	; ; ;	i 1 1 1 1	1 1 1 1 1	. 4	AEROJET	f
LDC RAD. TYPE PA	PART QTY.	BIAS							
P7650 C0-60	1 1 1 1 1 1 1 1 1	CNK.	f 	; ; ; ; ; ;		! ! ! !	; f f f	! ! ! !	
CUM.DOSE(RADS):	0		19K	.	56K	4	140K	- i	250K
METERS	QS N	MEAN	SD	NUM	SD	MEAN	SD	MEAN	SD
	SS	SPASS	!	SPASS		SPASS		SPASS	
	SS	SPASS		5PA3S		3FAIL		4FAI	_
	SS	SPASS		SPASS		SPASS		SPAS	S
VCON	SS	5PASS		SPASS		5PASS		SPAS	S
	SS	5PASS		SPASS		SPASS		SPAS	S
ICC 5PASS	SS	5PASS		SPASS		SPASS		SPAS	S

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7

GENER	GENERIC PART NUMBER	MBER	FUNCTION	NO		TECH	TECHNOLOGY		REF.NO		2
555	 	 	TIMING CIRC	TIMING CIRCUIT	<u> </u>	BIPC	BIPOLAR	f 	1057	5590	1 8
MANUF	MANUFACTURER		PART NUMBER	UMBER		SPEC	SPECIFICATION	NOI	DATA SOURCE	OURCE	
MOTOROLA	0LA	1 1 1 1	MC 1555		1	; []]	 	1 1 1 1 1 1	TRE	: 	:
LDC	RAD. TYPE PART GTY.	E PAR	T OTY.	_							
7548	*N + 09-00	1	10	VCC=+10V.	10V	; 	} { { }	: : : : : : :	† † † † † † †) 	1
CUM. D	CUM.DOSE(RADS):		: 0	*N+200K	XO						
PARAM	PARAMETERS	MEAN	S	MEAN SD	SD	MEAN	SD	ı	SD MEAN	ļ	!
VOL	> W	99.81	99.81 6.42		111.3 6.75	! ! !	 	; ; ; ; ;		f 1 1 1 1 1 1 1 1	{

1069

DATA SOURCE

SPECIFICATION

PART NUMBER

MANUFACTURER SIGNETICS

SE555

V+=+10V. BIAS

9

*N + 09-00

RAD. TYPE PART OTY.

CDC

REF.NO. RECORD

TECHNOLOGY

FUNCTION TIMER

GENERIC PART NUMBER

BIPOLAR

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CUM.DOSE(RADS):	0	C	*N+100K)OK	*N+300K)OK	*N+500K	Š		
PARAMETERS	MEAN SD	So	MEAN SD	WEAN SD	MEAN SD	SD	MEAN SD	SD	MEAN SD	SD
i i	72.63	72.63 9.648	84.28 11.04	11.04	89.02	11.30	72.63 9.648 84.28 11.04 89.02 11.30 90.95 11.42	11.42	1	
VOL(Z) MV	74.91	10.04	87.21	12.06	92.88	11.18	93.70	11.83		
VTH V @VCE=15V	9.978	.0042	9.982	.0042	9.988	.0042	9.978 .0042 9.982 .0042 9.988 .0042 9.988 .0042	.0042		
**	VOL	Ξ.	(2)-	SEE	VOL (1), (2)- SEE NOTE ON	NO	REC.	REC. 5711		
REMARKS: **7847,7843. *NEUTRON RAD. = 6.E11 N/SQCM. ***CONTINUED ON REC. 5711	,7843.	*NEUT	RON RAD	9	E11 N/S	OCM.	***CONT	INUED	ON REC.	5711

GENERIC PART NUMBER	FUNCTION	Z		TEC	TECHNOLOGY		ž	F.NO.	REF.NO. RECORD
555	IMER			BIP	BIPOLAR	; ; ; ;)‡	1069	5711
MANUFACTURER	PART NUMBER	MBER		SPE	SPECIFICATION	NOI	ត	DATA SQURCE	JRCE
SIGNETICS	SESSS	:	 		1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		1	1	
LDC RAD, TYPE PART GTY.		BIAS	1		1 1 1 1	1 1 1 1		1 1 1 1	
CUM, Dr	0	N+100K	¥	N+300K	X	N+500K	Š		
PARAMETERS MEAN	SD	MEAN SD	SD	MEAN	SD	MEAN SD	as	MEAN	SD
NA A	6.755 4.350 50.99 32.17 143.8 74.25 192.3 96.84	50.99	32.17	143.8	74.25	192.3	96.84		
VOH VOH 03.54	13.54 .0372 13.45 .0538 33.40 .0831 13.36 .0906	13,45	.0538	13.40	.0831	13, 36	9060		

(1)MEAS. <6S. POST-TURN-ON (2)>605.PTG. REMARKS: **CONTINUATION FROM REC. 5710.

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Ģ	GENERIC PART NUMBER	PART	NUMBE	3	FUNCTION	NO		TECH	TECHNOLOGY		α .	REF.NO. RECORD	RECORD
i in	571	! !	• • • • •	!	10-BIT	10-BIT A/D CONVRTR	NVRTR.	111		 	-	E-1	3090
Σ	MANUFACTURER	TURER			PART NUMBER	UMBER		SPEC	SPECIFICATION	NOI	۵	DATA SOURCE	JRCE
! 4	ADI) † † !	; ; ; !		AD571	; f f l l	[! ! !	; ! ! ! !	֡֝֝֝֝֝֝֟֝֝֝֝֝֝֝֝֝֟֝֝֝֡֝֝֟֝	JPL	; ; ; ;
. =	LDC	RAD. TYPE	TYPE	PART	PART OTY.	BIAS							
1 1	7846N	2.5MEV EL	V EL	! ! !	2	VCC= 15	VCC=15V, VDD=-15V	-15V.	f i i i	, ; ; ; ;		! ! ! ! !	
Ō,	CUM.DOSE(RADS):	E (RAD	s) :	0		.,	30K	7	75K	150K	×		600K
ŭ	PARAMETERS	FRS	Ē	MEAN	SD	MEAN	SD	MEAN	S	MEAN	SD	MEAN	SD
ΙĤ	ICC-BLK(5)*MA	(5) *M	4	1.40	1	1.35	! ! ! !	1.35	! ! !	1.40	t ! !	1.36	
Ĥ	ICC-BLK(15)MA	((15)M	· ·	3.60		3.55		3.60		3.65		3.75	
H	ICC-CONV(5)MA	IV (5) M.		5.25		4.40		4.05		3.57		1.90	•
-	ICC-CNV(15)MA	(15)W		9.65		8.70		8, 23		7.75		4.40	•
—	BLANK(5)	5) US		974		696		995		FAIL		FAIL	
 -	BLANK(15)		s	931		962		1015		1075		FAIL	
1 2	PARAMETERS REMARKS: * M	HETERS	C(EAN=W(CONT.	CASE P	REC.	PARAMETERS CONT. ON REC. 3091. REMARKS: * MEAN=WORST-CASE PARAMETER VALUE	(NOT	AVG.):	(NOT AVG.): V-=-15V. V+=() OR 5V.	, ,	=() OR	50.
											•		

GENERIC PART NUMBER		TECHNOLOGY		RECORD
571	10-BIT A/D CONVRTR.	III	1-3	306
MANUFACTURER	PART NUMBER	SPECIFICATION DATA SOURCE	DATA SOURCE	JRCE .
ADI	AD571			
LDC RAD. TYPE P	RAD. TYPE PART QTY. BIAS			

150K 600K		FAIL FAIL 816 1026 3.57 4.15
75K	MEAN SD	28.1 28.2 155.2 233 3.57 4.10
30K	MEAN SD	
0	MEAN SD	22.7 22.9 15.03 16.72 3.52 4.33
(RADS):	RS	US NA NA UA NA U
CUM.DOSE(RADS)	PARAMETERS	TCONV(5) TCONV(15) IIH(5) IIH(15) IIL(5)

DATA SOURCE

SPECIFICATION

PART NUMBER

MANUFACTURER

ADI

REF.NO. RECORD

TECHNOLOGY

10-BIT A/D CONVRTR.

FUNCTION

GENERIC PART NUMBER

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CUM.DOSE(RADS): 0 30K 75K 150K 600K FARAMETERS MEAN SD MEAN SD MEAN SD MEAN SD VOL(5) MV 16.95 23.0 48.9 349 3080 VOL(15) MA 12.18 10.90 7.20 1.39 FAIL END OF REMARKS: CONTINUATION FROM RECORD 3093.		0	NO.				
ERS MEAN SD MEAN SD MEAN SD MEAN SD MEAN MEAN SD MEAN MEAN MA 16.95 23.0 32.8 157 2590 MA 12.18 10.90 7.20 1.39 FAIL FAIL ERS CONTINUATION FROM RECORD 3093.		3 1 4 1 1 1 1 1	: 1	75K	150K	09	¥
16.95 23.0 48.9 349 19.4 22.0 32.8 157 9.68 7.58 2.90 FAIL 12.18 10.90 7.20 1.39			MEAN) 	 	MEAN	SD
MV 19.4 22.0 32.8 157 MA 9.68 7.58 2.90 FAIL MA 12.18 10.90 7.20 1.39 ERS : CONTINUATION FROM RECORD 3093.	. ₩	6.95	23.0	48.9	349	3080	! ! !
MA 9.68 7.58 2.90 FAIL MA 12.18 10.90 7.20 1.39 ERS CONTINUATION FROM RECORD 3093.	>₩	19.4	22.0	32.8	157	2590	
MA 12.18 10.90 7.20 1.39 ERS : CONTINUATION FROM RECORD 3093.	MA	9.68	7.58	2.90	FAIL	FAIL	
F ARAMETERS EMARKS: CONTINUATION FROM RECORD 3093.	MA	2.18	10.90	7.20	1.39	FAIL	
ARAMETERS EMARKS: CONTINUATION FROM RECORD 3093.	<u>u</u> .						
EMARKS: CONTINUATION FROM RECORD 3093.	ARAMETERS						
	EMARKS: CONTINUAL	TION FRO	M RECORD 3093.				
	SENERIC PART NUMBE		ICTION	TECHNOLOG	>	٠ _:	ECORD
RIC PART NUMBER FUNCTION TECHNOLOGY REF.NO. R	57.4	-01	10-BIT A/D CONVRTR	R. IIL	t 1 1 1 1 1 1	1-3	3092

GENERIC PART NUMBER	PART NI	UMBER	FUNCTION	LION		TECH	TECHNOLOGY	GΥ	2	S	RECORD
57.4	 	 	10-B1	IO-BIT A/D CONVRTR	ONVRTE	111	! ! !	 		1-3	3092
MANUFACTURER	JRER		PART	PART NUMBER		SPEC	SIFIC	SPECIFICATION	٥	DATA SOURCE	RCE
ADI	! ! !	! ! !	AD571				! ! !	; ; ; ; ; ; ;	! !	 	
LDC R/	RAD. TYPE		PART QTY.	BIAS							
1 1 1 1 1	1 ! !		! !	! ! !					! ! ! !	4 4 4 5 6 1	! ! !
CUM. DOSE (RADS):	(RADS)		0		308	•	75K	₩.	150K	9	600K
PARAMETERS	SS	MEAN	SD	MEAN	SD	MEAN	as	MEAN	SD	MEAN	SO
10ZL(5)	NA.	0.120		6.95		777	1	3930	 	978	1 1 1
IOZL(15)	Ν	111.6	,,,	119.0	_	1491		7250		2160	
V0H(5)	>	4.92		4.93	_	4.91		4.82		1.80	
VOH(15)	>	14.80	_	14.80	_	14.80		14.70		5.30	
IOH(5)	MA	14.45		14.10	_	FAIL		FAIL		FAIL	
IOH(15)	٩	22.8	_	22.8		21.1		14.7		5.5	
* REMARKS:		NUATION	FROM	CONTINUATION FROM RECORD. 3092.	3092.	*PARAMET	FERS	*PARAMETERS CONTINUED ON RECORD 3094	D ON R	ECORD 3	094.

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GENERIC	GENERIC PART NUMBER		TECHNOLOGY	REF.NO. RECORD	RECORD
571		10-BIT A/D CONVRTR.	IIL	1-3	3092
MANUFACTURER	MANUFACTURER	PART NUMBER	SPECIFICATION	DATA SOURCE	JRCE
ADI		AD571			
LDC R	RAD. TYPE	RAD. TYPE PARI QTY. BIAS	BIAS	; ; ; ;	!

OM. DOSE (RADS):	0			30 <u>K</u>	7	75K	¥	150K	09	600K
ARAMETERS	MEAN SD	SD	MEAN	SD	MEAN SD	SD	MEAN	YEAN SD	MEAN SD	SD
EE-BLK(5) MA	10.55	 	10.24	!	8.32	: :	7.91	1 1 1	9.77	
EE-CONV MA	11.14		10.79		10.11		8.70		8.32	
JFFSET MV	10.01		10.07		9.16	٠	44.3		FAIL	
FFERR LSB	00.		1.00		90.6		4.56		8.03	
ONLIN LSB	0.57	Ť	0.51		0.23		FAIL		FAIL	
DZH(5) NA	0.1.		10.37		1295		6380		3650	
DZH(15) NA	9.30		23.5		2120		8800		5050	
EMARKS: CONTIN	JATION	FROM R	RECORD 309	1091.	ARAMETERS	_	CONTINUED	N	RECC2D 3093	6

GENERIC	GENERIC PART NUMBER	JMBER	FUNCTION	NO	-	TECH	TECHNOLOGY	>	₩.	REF.NO.	RECORD
57.1			10-BIT	10-BIT A/D CDNVRTR	NVRTR.	IIL	i 		-	1-4	3100
MANUFACTURER	TURER		PART NUMBER	IUMBER		SPEC	*	NOIT	à	DATA SOURCE	RCE
ADI			AD571						1	JPL	
- DC	RAD. TYPE		PART OTY.	BIAS							
7846N	2.5MEV EL		4	VCC=15	VCC=15V, VDD=-15V	15V.	t 	; ; ; ; ; ;	 	! 	! ! ! !
UM. DOS	CUM.DOSE(RADS):		0		30K		75K	£ .	150K		600K
PARAMETERS	ERS	MEAN	SO	MEAN	SD	MEAN	SD	MEAN	SD	MEAN	S
CC-BLK	ICC-BLK(5) *MA	1.45		1.35] 	1.30		1.30		1.20	
CC-BLF	ICC-BLK(15)MA	3.42		3.27		3.25		3.20		3.05	
100-00 00-00	CC-CONV(5)MA	6.75		5.10		4.40		3.75		2.45	
CC-CN	ICC-CNV(15)MA	11.18		9.25		8.45		7.75		3.45	
TBLANK(5)	5) US	1.115		1.080		1.145		1.185		FAIL	
BLANK(TBLANK(15) US	1.040		1.055		1.170		2.21		FAIL	
PARAMETERS	RS	CONT.	NO	REC.	3101.			!	į		
REMARKS *		CATCAS AND THE CASE OF THE PARTY AND THE PARTY AND THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PA					((

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GENERIC	GENERIC PART NUMBER	MBER	FUNCTION	ŃO	٠.	TECH	TECHNOLOGY		A.	F.NO.	REF.NO. RECORD
571			10-B17	10-BIT A/D CONVRTR.	NVRTR.	111	; ; ; ; ;	 		1-4	3101
MANUFACTURER	TURER		PART N	PART NUMBER		SPEC	SPECIFICATION	NOI	OA	DATA SOURCE	URCE
ADI	f f t t t	- } } 	AD571	! ! ! ! !	! ! ! !	1	:	 	4 1	1 1 1 1	}
TDC	RAD. TYPE		PART OTY.	BIAS							
	 	i s t	[7 8 8 1 1	!	1 5 1 1	! ! !	\	!		
CUM. DOSE	CUM. DOSE (RADS):	Ü		w	30K	1-	75K	1	150K		600K
PARAMETERS	ERS	MEAN	SD	MEAN	SO	MEAN	S	MEAN	SD	MEAN	SO
TCONV(5)	1	25.3	 	27.1	 	29.4	! ! ! !	32.6	1 1 1	FAIL	! ! ! !
TCDNV(15	5) US	25.4		27.8		29.6		33.0		FAIL	ب
IIH(5)		15.42		22.0		813		1060		183(0
IIH(15)		17.43		28.0		1190		1450		2060	0
111(5)		2.72		3.18		2.56		2.81		3.46	· w
111(15)		3.21		3.61		2.99		3.28		4.0	er.
*											

GENERIC PART NUMBER	FUNCTION	TECHNOLOGY	
571	10-BIT A/D CONVRTR.	TII	1-4 3102
MANUFACTURER	PART NUMBER		
ADI	AD571		
LDC RAD. TYPE PA	PART QTY. BIAS	BIAS	

*PARAMETERS CONTINUED ON RECORD 3102.

REMARKS: CONTINUATION FROM RECORD 3100.

CUM.DOSE(RADS)	RADS):	O			30K	7	75K	<u>2</u> 1	150K	9	600K
PARAMETERS	S	MEAN	SD	MEAN	SD	MEAN	SD	MEAN	SD	MEAN	SD
IEE-BLK(5) MA	MA (9.31	1 ! !	8.83] 	10.26	! ! !	9.47	! ! !	8.34	1 1 1
IEE-CONV	MA	10.53		10.48		10.67		10.24		10.23	
OFFSET	*	6.10		6.10		74.8		107.1		FAIL	
DFFERR	LSB	0.594		0.594		7.69		1.00		FAIL	
NON' IN	LSB	0.158		0.332		0.457		1.150		3.07	
102H(S)	Ž	0.81		10.06		1510		2420		2080	
IOZH(15)	Ž	1.46		21.37		1820		5070		4500	
REMARKS:	CONTIN	UATION	FROM R	RECORD 3101	3101.	PARAMETERS	•	CONTINUED	Š	RECORD 3103	03.

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GENERIC PART NUMBER	PART NU	MBER	FUNCTION	NO		TECH	TECHNOLOGY	}:	2	EF.NO.	REF.NO. RECORD
571	 		10-817	r A/D C	10-BIT A/D CONVRTR.	111	! !	! 	-	1-4	3103
MANUFACTURER	JRER		PART	PART NUMBER		SPEC	SPECIFICATION	NTION	٥	DATA SOURCE	JRCE
ADI	 	; { { {	AD571	1		1		1 1 1 1 1	! !	i 1 1 1 1	# 1 1 1
LDC R	RAD. TYPE		PART OTY.	BIAS	:						
	Na s	:			 	 					j 1 1 1 1 1
CUM. DOSE (RADS):	(RADS):	U		- I	30K		75K	15	150K		600K
PARAMETERS	S2	MEAN	SD	MEAN	SD	MEAN	S	MEAN	SD	MEAN	SD
IOZL(5)	Z Z	0.33	 	2.79		911	i ! !	2630	! ! !	445	1
IOZL(15) VOH(5)	Z >	0.35		10.08 4.92		1930 4		4580		1870	o •
VOH(15)	>	14.85		14.85		14.83		14.82		2.5	. ~
IOH(5)	MA	24.2		23.3	_	20.8		6.57		FAI	
IOH(15) *	_	23.0		22.9	_	22.6		22.0		232(_
REMARKS: CONTINUATION FROM RECORD 3102	NITNOO	UATION	FROM	FCORD		*PARAME	TERS	*PARAMETERS CONTINUED ON RECORD 3104	200	PECOPO	3104

571						REF.NO. RECORD
		10-BIT A/D CONVRTR.	III	11 6 6 1 1 1 1 1	4-4	3104
MANUFACTURER	PART NUMBER	JUMBER	SPECIFICATION	ION	DATA SOURCE	JRCE
ADI	AD571]
LDC RAD, TYPE PART QTY.	PART OTY.	BIAS		# 	1	1
CUM.DOSE(RADS):		XC E	75K	, XORT		, CO W
-	MEAN CO					

41.5	2980	2.85	6.77	
23.3	21.8	6.78	10.08	
16.4	16.9	8.38	11.16	
12.8	14.5	9,29	12.07	
≥	≥	MA	ΜA	
VOL (5)	VOL (15)	101(5)	IOL (15)	

GENERIC PART NUMBER	MBER	FUNCTION	NOI		TECH	TECHNOLOGY	.	~	REF.NO. RECORD	ECORD	
57.1		10-BI	10-BIT A/D CONVRTR.	NVRTR.	111			+	1-5	3110	
MANUFACTURER		PART	PART NUMBER		SPEC	SPECIFICATION	NOIT	۵	DATA SOURCE	SC E	
ADI		AD571						5	JPL.		
		PART OTY.	BIAS								
7922N 2.5MEV EL		4	VCC=1	VCC=15V, VDD=-15V	=-15V.	i i i i	r 1 1 1 1 1	 	; ; ; ; ;	1 1 1 1	
CUM.DOSE(RADS):		0	30	30.0K	75.0K	Š	15	150K	30	300K	
PARAMETERS	MEAN	SD	MEAN	SD	MEAN	SD	MEAN	SD	MEAN	SD	
ICC-BLK(5)*MA	1.350		1.250		0.866		0.850		FAIL		
ICC-CDNV(5)MA	9.50		8 9 9		3.30		9 9 9 9		FAIL		
ICC-CNV(15)MA	0.995		1.030		1.040		FAIL		FAIL		
TBLANK(15) US	0.965		1.040		1, 155		FAIL		FAIL		
TCONV(5) US	23.9		28.5		35.7		FAIL		FAIL		
PARAMETERS	CONT.	8	REC.	3111.							
REMARKS: MEAN	= WORS	I-CASE	PARAM	VALUE	= WORST-CASE PARAM VALUE (NOT AVG.)	~	*VCC=() VDD=-15V	ĊĊ	157		

ART NU	FUNCTION	TECHNOLOGY	
571	10-BIT A/D CONVRTR.	TII	1-5 311
MANUFACTURER	PART NUMBER	SPECIFICATION	DATA SOURCE
ADI	AD571		1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
LDC RAD. TYPE PART 0TY.	PART OTY. BIAS		
CUM, DOSE (RADS):	30.0K	75.0K 150K	300K

CUM, DOSE (RADS):	RADS):	0	_		30.0K	75.0K	¥	Ē	150K	ည	300K
PARAMETERS	S	MEAN SD	SD	MEAN	MEAN SD	MEAN	SD	MEAN SD	SD	MEAN	SD
TCONV(15)	Sn	23.9	1 1	28.6		35.0	1	FATL	1	FATI	
IIH(5) NA 15.46 17.43	N N	15.46		17.4	<u>ق</u>			186		FAIL	
IIH(15)	Ν	17.99		80.	8	82.3		271		FAIL	
111(5)	Ŋ	2.52		8	+			2.11		FAIL	
111(15)	Υ	2.90		4.0	9			2.40		FAIL	
IEE-BLK(5	WA (10.11		б	2	8.25		8.55		FAIL	
IEE-CONV(5)MA	11.30		5.0	33			8.68		FAIL	
REMARKS:	CONTIN	VUATION	OF RE	CORD	1110.	PARAMETERS CONTINUED ON RECORD 3112.	CONT	INUED O	N RECC	3112	

GENERIC PART NUMBER		TECHNOLOGY	REF.NO.
571	10-BIT A/D CONVRTR.	III	1-5 3412
MANUFACTURER	PART NUMBER	SPECIFICATION	DATA SOURCE
i	AD571		
LDC RAD. TYPE PART QTV.		BIAS	; ; ; ; ; ; ; ; ;

CUM. DOSE (RADS)	(RADS):	O	4	30.0K	Š	75.0K	¥	15	150K	9	300K
ARAMETERS	SS	MEAN	SD	MEAN	SD	MEAN SD	SD	MEAN	SD	MEAN	SD
JFF SET	₩	6.10		5.18		4.27] 	161		FAIL	li li li
	LSB	0.593		0.500		0.406		16.53		FAIL	
NONLIN,	SB	1.055		1.082		1.528		3.355		FAIL	
0ZH(5)	Ϋ́	0.551		2.917		118		719		FAIL	
02L(5)	Ϋ́	0.154		0.504		45.2		452		FAIL	
(12)	A V	0.595		2.095		172		1140		FAIL	
OH(5)	>	4.92		4.93		4.93		4.92		FAIL	
SEMARKS:	CONTIN	CONTINUATION OF		RECORD 3111.	_	ARAMETERS		INUED O	N RECC	CONTINUED ON RECORD 3113	_:

ם מחשל	GENERIC PART NUMBER	FUNCTION	TECHNOLOGY		ORD
PART NUMBER SPECIFICATION AD571 YPE PART QTV. BIAS	571	10-BIT A/D CONVRTR.		1-5-1	3113
AD571 RAD. TYPE PART QTY. BIAS	MANUFACTURER	PART NUMBER	!	-	!
RAD, TYPE PART OTY.	ADI	AD571			
		RT QTY. BIAS			

CUM. DOSE (RADS):	(RADS):	U	.	30	30.0K	75.	75.0K	T	150K	S	300K
PARAMETERS	4S	_	SD	MEAN SD	EAN SD	MEAN	AN SD	MEAN	SD	MEAN	SD
	>	V 14.85 14.85	i i i i	14.85	 	14.85) 	14.84	i. I I	FAIL	
10H(5)	MA	25.3		21.3		FAIL		FAIL		FAIL	
	٩	22.9		22.8		22.1		14.9		FAIL	
	≥	13.0		23.6		305		496		FAIL	
	≥	14.6		20.9		124		2670		FAIL	
	Ψ	10.99		6.61		FAIL		FAIL		FAIL	
	Ψ	14.45		9.98		1.57		FAIL		FAIL	
	CONTIN	UATION	OF REC	ORD 31	12.						

GENERIC PART NUMBER	MBER	FUNCTION	ION	.	TECH	TECHNOLOGY		u.	REF.NO. RECORD	RECORD
57+	i. · .	10-81	10-BIT A/D CONVRTR.	ONVRTR.	IIL				9-1	3120
MANUFACTURER		PART	PART NUMBER		SPE	SPECIFICATION	NO		DATA SOURCE	RCE
ADI	l	AD571	i T I I I	i i i i i	i i i	; ; ; ; ; ; ;	! 		JPL	
LDC RAD. TYPE		PART OTY.	BIAS							
7922(2.5MEV EL		5	VCC=1	VCC=15, VDD=-15V	- 15V.	; ; ; ;	; ! ! !	, 	; ; ; ;	1
CUM. DOSE(RADS):				30K		75K	#	150K	Ř	300K
PARAMETERS	MEAN	SD	MEAN	SO	MEAN	S	MEAN	SD	MEAN	SO
ICC-BLK(5)*MA	1.40		1.30		1.25		1.18		1.10	
ICC-BLK(15)MA	3.40		3.30		3.25		3.16		3.15	
ICC-CONV(5)MA	5.40		4.15		3.40		2.70		1.20	
ICC-CNV(15)MA	9.70		8.20		7.40		0.9		3.15	
TBLANA(5) US	0.970		1.025		1.020		FAIL		FAIL	
TBLANK(15) US	0.940		1.005		1.045		FAIL		FAIL	
PARAMETERS CI	6	8 .	REC.	3121.	JAC DA	OAMETED	24116	TO(4)	REC. 3121. MEAN = MODEL-CASE DADAMETED VALUE (AND AVEDACE)	_
KEMARNO: "ILIVO			MEAN -	VOK 21 - C	ASE TA	KAMEIRK	VALUE	2	AVERAGE	

GENERIC PART NUMBER	FUNCTION	TECHNOLOGY	REF.NO. RECORD	RECORD
57.1	10-BIT A/D CONVRTR.	111	1-6	3121
MANUFACTURER	~	SPECIFICATION		R CE
ADI	AD571			; ; ; ;
LDC RAD. TYPE PART GTY.	T OTY. BIAS			

CUM. DOSE (RADS):	(RADS):	0		.,	30K	75K		150K	••	300K
PARAMETERS	S2	MEAN	SD	MEAN	SD	MEAN SD	<u>2</u> .	SD	MEAN	SD
TCONV(5)	! _	25.5	t 1 1 1	27.6	; ; ;	30.5	FAIL	; ; ; ; ;	FAIL	 - - -
TCDNV(15)		25.6		27.7		30.6	FAIL		FAIL	_
IIH(5)	_	15.43		16.91		42.7	148		Ö	on.
IIH(15)	Ξ	17.83		19.55		56.4	199		42	0
111(5)	_	4.04		3.09		2.61	2.37		2	m
111(15)	NA	5.08		3.56		3.01	2.68		2.5	i On
*										
REMARKS: CONTINUATION OF RECORD 3120.	NITNCO	UATION	OF REC	ORD 312		APAMETERS	*PARAMETERS CONTINUED ON RECORD 3100	CHA NO	200	100

10-BIT A/D CONVRTR. IIL AD571 AD571 AD571 AD571 AD571 AD571 AD571 AD571 AD571 AD571 AD571 AD571 AD571 AD571 AD571 AD571 AD571 AD571 AD571 AD571 AD571 AD571 AD571 AD571 AD571 AD571 AD571 AD571 AD571 AD571 AD571 AD571 AD571 AD571 AD571 AD571 AD571 AD571 AD571 AD571 AD571 AD571 AD571 AD571 AD571 AD571 AD571 AD571 AD571 AD571 AD571 AD571 AD571 AD571 AD571 AD571 AD571 AD571 AD571 AD571 AD571 AD571 AD571 AD571 AD571 AD571 AD571 AD571 AD571 AD571 AD571 AD571 AD571 AD571 AD571 AD571 AD571 AD571 AD571 AD571 AD571 AD571 AD571 AD571 AD571 AD571 AD571 AD571 AD571 AD571 AD571 AD571 AD571 AD571 AD571 AD571 AD571 AD571 AD571 AD571 AD571 AD571 AD571 AD571 AD571 AD571 AD571 AD571 AD571 AD571 AD571 AD571 AD571 AD571 AD571 AD571 AD571 AD571 AD571 AD571 AD571 AD571 AD571 AD571 AD571 AD571 AD571 AD571 AD571 AD571 AD571 AD571 AD571 AD571 AD571 AD571 AD571 AD571 AD571 AD571 AD571 AD571 AD571 AD571 AD571 AD571 AD571 AD571 AD571 AD571 AD571 AD571 AD571 AD571 AD571 AD571 AD571 AD571 AD571 AD571 AD571 AD571 AD571 AD571 AD571 AD571 AD571 AD571 AD571 AD571 AD571 AD571 AD571 AD571 AD571 AD571 AD571 AD571 AD571 AD571 AD571 AD571 AD571 AD571 AD571 AD571 AD571 AD571 AD571 AD571 AD571 AD571 AD571 AD571 AD571 AD571 AD571 AD571 AD571 AD571 AD571 AD571 AD571 AD571 AD571 AD571 AD571 AD571 AD571 AD571 AD571 AD571 AD571 AD571 AD571 AD571 AD571 AD571 AD571 AD571 AD571 AD571 AD571 AD571 AD571 AD571 AD571 AD571 AD571 AD571 AD571 AD571 AD571 AD571 AD571 AD571 AD571 AD571 AD571 AD571 AD571 AD571 AD571 AD571 AD571 AD571 AD571 AD571 AD571 AD571 AD571 AD571	GENERIC PART NUMBER	BER	FUNCTION	NO		TECHNOLDGY	-0GY		REF.NO. RECORD	RECORD
S): O 30K 75K 150K MEAN SD MEAN SD MEAN SD A 10.19 9.58 9.05 8.45 A 10.06 0.59 10.11 8.63 B 1.055 1.053 1.496 3.06 A 165.4 1755 58.9 411 TYPE PART QTV. BIAS A 16.53 1.496 3.06 A 1.654 1.755 647 A 165.4 1755 647 A 165.4 1755 647 A 165.4 1700 0.89 16.53		1 	10-BIT	A/D CO	NVRTR	ļ.	i 	' ' ! ! !	9-	3122
AD571 RAD. TYPE PART QTY. BIAS LD0SE(RADS): 0 30K 75K 15 AMETERS MEAN SD MEAN SD MEAN BLK(5) MA 10.19 9.58 9.05 8.45 CONV(5) MA 10.19 9.58 9.05 8.45 CONV(5) MA 11.06 10.59 10.11 8.63 LIN LSB 1.055 1.053 1.496 3.06 H(5)* NA 1525 5.49 58.9 411 H(15)* NA 16525 5.49 58.9 AD571 AD572 AD573 AD573 AD573 AD574 AD573 AD573 AD574 AD574 AD574 AD575 AD576 AD576 AD577 AD577 AD577 AD577 AD577 AD577 AD577 AD577 AD577 AD577 AD577 AD577 AD577 AD577 AD577 AD577 AD577 AD577 AD577 AD577 AD577 AD577 AD577 AD577 AD577 AD577 AD577 AD577 AD577 AD577 AD577 AD577 AD577 AD577 AD577 AD577 AD577 AD577 AD577 AD577 AD577 AD577 AD577 AD577 AD577 AD577 AD577 AD577 AD577 AD577 AD577 AD577 AD577 AD577 AD577 AD577 AD577 AD577 AD577 AD577 AD577 AD577 AD577 AD577 AD577 AD577 AD577 AD577 AD577 AD577 AD577 AD577 AD577 AD577 AD577 AD577 AD577 AD577 AD577 AD577 AD577 AD577 AD577 AD577 AD577 AD577 AD577 AD577 AD577 AD577 AD577 AD577 AD577 AD577 AD577 AD577 AD577 AD577 AD577 AD577 AD577 AD577 AD577 AD577 AD577 AD577 AD577 AD577 AD577 AD577 AD577 AD577 AD577 AD577 AD577 AD577 AD577 AD577 AD577 AD577 AD577 AD577 AD577 AD577 AD577 AD577 AD577 AD577 AD577 AD577 AD577 AD577 AD577 AD577 AD577 AD577 AD577 AD577 AD577 AD577 AD577 AD577 AD577 AD577 AD577 AD577 AD577 AD577 AD577 AD577 AD577 AD577 AD577 AD577 AD577 AD577 AD577 AD577 AD577 AD577 AD577 AD577 AD577 AD577 AD577 AD577 AD577 AD577 AD577 AD577 AD577 AD577 AD577 AD577 AD577 AD577 AD577 AD577 AD577 AD577 AD577 AD577 AD577 AD577 AD577 AD577 AD577 AD577 AD577 AD577 AD577 AD577 AD577 AD577 AD577 AD577 AD577 AD577 AD577 AD577 AD577 AD577 AD577 AD577 AD577 AD577 AD577 AD577 AD577 AD577 AD577 AD577 AD577 AD577 AD577 AD577 AD577 AD577 AD577 AD577 AD577 AD577 AD577 AD577 AD577 AD577 AD577 AD577 AD577 AD577 AD577 AD577 AD577 AD577 AD577 AD577 AD577 AD577 AD57	MANUFACTURER		PART N	UMBER		SPECIF	CATION		DATA SOURCE	JRCE
E PART QTY. BIAS 0 30K 75K 15 MEAN SD MEAN SD MEAN 10.19 9.58 9.05 8.45 11.06 10.59 10.11 8.63 6.10 6.10 6.10 161 0.59 1.053 1.496 3.06 1.055 1.053 1.496 3.06 1.525 5.49 58.9 411 165.4 176.5 58.9 641 165.4 176.5 6.235 647 165.4 176.5 6.235 647 165.4 176.5 6.235 6.41	ADI	 	AD571	1 1 1 1 1						
MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD 10.19 9.58 9.05 8.45 11.06 6.10 6.10 6.10 6.10 6.10 6.10 6.1	RAD.		OTY.	BIAS			1	; 1 1	; ; ; ;	1
MEAN SD MEAN SD MEAN SD MEAN 150.19 9.58 9.05 8.45 11.06 6.10 6.10 6.10 0.59 16.53 1.055 1.055 1.055 1.055 1.053 1.496 3.06 11.055 1.055 1.053 1.496 3.06 11.055 1.053 1.496 3.06 11.055 1.055 1.053 1.496 3.06 11.055 1.053 1.496 3.06 11.055 1.053 1.496 3.06 11.055 1.053 1.496 3.06 11.055 1.053 1.496 3.06 11.055 1.053 1.496 3.06 11.055 1.053 1.496 3.06 11.055 1.055 1.055 1.055 1.055 1.055 1.055 1.055 1.055 1.055 1.055 1.055 1.055 1.055 1.055 1.055 1.055 1.055 1.055 1.055 1.055 1.055 1.055 1.055 1.055 1.055 1.055 1.055 1.055 1.055 1.055 1.055 1.055 1.055 1.055 1.055 1.055 1.055 1.055 1.055 1.055 1.055 1.055 1.055 1.055 1.055 1.055 1.055 1.055 1.055 1.055 1.055 1.055 1.055 1.055 1.055 1.055 1.055 1.055 1.055 1.055 1.055 1.055 1.055 1.055 1.055 1.055 1.055 1.055 1.055 1.055 1.055 1.055 1.055 1.055 1.055 1.055 1.055 1.055 1.055 1.055 1.055 1.055 1.055 1.055 1.055 1.055 1.055 1.055 1.055 1.055 1.055 1.055 1.055 1.055 1.055 1.055 1.055 1.055 1.055 1.055 1.055 1.055 1.055 1.055 1.055 1.055 1.055 1.055 1.055 1.055 1.055 1.055 1.055 1.055 1.055 1.055 1.055 1.055 1.055 1.055 1.055 1.055 1.055 1.055 1.055 1.055 1.055 1.055 1.055 1.055 1.055 1.055 1.055 1.055 1.055 1.055 1.055 1.055 1.055 1.055 1.055 1.055 1.055 1.055 1.055 1.055 1.055 1.055 1.055 1.055 1.055 1.055 1.055 1.055 1.055 1.055 1.055 1.055 1.055 1.055 1.055 1.055 1.055 1.055 1.055 1.055 1.055 1.055 1.055 1.055 1.055 1.055 1.055 1.055 1.055 1.055 1.055 1.055 1.055 1.055 1.055 1.055 1.055 1.055 1.055 1.055 1.055 1.055 1.055 1.055 1.055 1.055 1.055 1.055 1.055 1.055 1.055 1.055 1.055 1.055 1.055 1.055 1.055 1.055 1.055 1.055 1.055 1.055 1.055 1.055 1.055 1.055 1.055 1.055 1.055 1.055 1.055 1.055 1.055 1.055 1.055 1.055 1.055 1.055 1.055 1.055 1.055 1.055 1.055 1.055 1.055 1.055 1.055 1.055 1.055 1.055 1.055 1.055 1.055 1.055 1.055 1.055 1.055 1.055 1.055 1.055 1.055 1.055 1.055 1.055 1.055 1.055 1.055 1.055 1.055 1.055 1.055 1.055 1.055 1.055 1.055 1.055 1.055 1.055 1.055 1.055 1.055 1.055 1.055 1.055 1.055 1.055 1.055 1.055 1.055 1.055 1.055 1.055 1.055 1.055 1.055 1										
MEAN SD MEAN SD MEAN SD MEAN MEAN MEAN MEAN MEAN SD MEAN MEAN MEAN SD MEAN MEAN MEAN MEAN MEAN MEAN MEAN MEAN	CUM.DOSE(RADS):	0		ю	ğ	75K		150K		300K
K(5) MA 10.19 9.58 9.05 8.45 NV(5) MA 10.06 10.59 10 11 8.63 NV 6.10 6.10 6.10 161 LSB 0.59 0.59 0.59 16.53 LSB 1.055 1.053 1.496 3.06 NA 1525 5.49 58.9 411 SO CONTINUED OF RECORD 3121 *PARAMETERS CONTINUED	PARAMETERS	MEAN	SO	MEAN	SD		- '	SD	MEAN	S
NV(5)MA 11.06 10.59 10.11 8.63 NV 6.10 6.10 6.10 6.10 161 8.63 LSB 0.59 0.59 16.53 LSB 1.055 1.053 1.496 3.06 S)* NA 165.4 176.5 235 6471 S.* CONTINIATION OF RECORD 3121 *PARAMETERS CONTINUED	IEE-BLK(5) MA	10.19	l - 	9.58		9.05	8.4	្ច	90.6	
MV 6.10 6.10 6.10 161 LSB 0.59 0.59 0.59 16.53 LSB 1.055 1.053 1.496 3.06 NA 1.525 5.49 58.9 411 5.40 176.5 235 647 S. CONTINIATION OF RECORD 3121 *PARAMETERS CONTINUED	I EE-CONV(5)MA	11.06		10.59		10 11	8.6	ි. ල	9.34	
LSB 0.59 0.59 0.59 16.53 1.05 1.05 1.05 1.05 1.05 1.05 1.05 1.05	OFF SET MV	6.10		6.10		6.10	16	-	FAIL	
LSB 1.055 1.053 1.496 3.06 (1.496 1.525 1.496 1.496 1.496 1.496 1.496 1.496 1.496 1.496 1.496 1.496 1.496 1.496 1.496 1.496 1.496 1.496 1.496 1.496 1.496 1.496 1.496 1.496 1.496 1.496 1.496 1.496 1.496 1.496 1.496 1.496 1.496 1.496 1.496 1.496 1.496 1.496 1.496 1.496 1.496 1.496 1.496 1.496 1.496 1.496 1.496 1.496 1.496 1.496 1.496 1.496 1.496 1.496 1.496 1.496 1.496 1.496 1.496 1.496 1.496 1.496 1.496 1.496 1.496 1.496 1.496 1.496 1.496 1.496 1.496 1.496 1.496 1.496 1.496 1.496 1.496 1.496 1.496 1.496 1.496 1.496 1.496 1.496 1.496 1.496 1.496 1.496 1.496 1.496 1.496 1.496 1.496 1.496 1.496 1.496 1.496 1.496 1.496 1.496 1.496 1.496 1.496 1.496 1.496 1.496 1.496 1.496 1.496 1.496 1.496 1.496 1.496 1.496 1.496 1.496 1.496 1.496 1.496 1.496 1.496 1.496 1.496 1.496 1.496 1.496 1.496 1.496 1.496 1.496 1.496 1.496 1.496 1.496 1.496 1.496 1.496 1.496 1.496 1.496 1.496 1.496 1.496 1.496 1.496 1.496 1.496 1.496 1.496 1.496 1.496 1.496 1.496 1.496 1.496 1.496 1.496 1.496 1.496 1.496 1.496 1.496 1.496 1.496 1.496 1.496 1.496 1.496 1.496 1.496 1.496 1.496 1.496 1.496 1.496 1.496 1.496 1.496 1.496 1.496 1.496 1.496 1.496 1.496 1.496 1.496 1.496 1.496 1.496 1.496 1.496 1.496 1.496 1.496 1.496 1.496 1.496 1.496 1.496 1.496 1.496 1.496 1.496 1.496 1.496 1.496 1.496 1.496 1.496 1.496 1.496 1.496 1.496 1.496 1.496 1.496 1.496 1.496 1.496 1.496 1.496 1.496 1.496 1.496 1.496 1.496 1.496 1.496 1.496 1.496 1.496 1.496 1.496 1.496 1.496 1.496 1.496 1.496 1.496 1.496 1.496 1.496 1.496 1.496 1.496 1.496 1.496 1.496 1.496 1.496 1.496 1.496 1.496 1.496 1.496 1.496 1.496 1.496 1.496 1.496 1.496 1.496 1.496 1.496 1.496 1.496 1.496 1.496 1.496 1.496 1.496 1.496 1.496 1.496 1.496 1.496 1.496 1.496 1.496 1.496 1.496 1.496 1.496 1.496 1.496 1.496 1.496 1.496 1.496 1.496 1.496 1.496 1.496 1.496 1.496 1.496 1.496 1.496 1.496 1.496 1.496 1.496 1.496 1.496 1.496 1.496 1.496 1.496 1.496 1.496 1.496 1.496 1.496 1.496 1.496 1.496 1.496 1.496 1.496 1.496 1.496 1.496 1.496 1.496 1.496 1.496 1.496 1.496 1.496 1.496 1.496 1.496 1.496 1.496 1.496 1.496 1.	_	0.59		0.59		0.59	16.5	9	FAIL	
5.49 58.9 411 5)* NA 165.4 176.5 235 647 5. CONTINIATION OF RECORD 3121 *PARAMETERS CONTINUED	-	1.055		1.053		1.496	3.0	. 9	3.88	m
165.4 176.5 235 647 1NIATION OF RECORD 3121 *PARAMETERS CONTINUED		1.525		5.49		58.9	4	_	758	.
INHATION OF RECORD 3121. *PARAMETERS CONTINUED		165.4		176.5		235	64	7	1190	0
	REMARKS: CONTINU	UATION		ORD 312		PARAMETERS	CONTINUE	Z N O	ECORD 31	123.

UFACTURER PART NUMBER SPECIFICATION DATA SOUR(AD571 RAD. TYPE PART QTY. BIAS	GENERIC PART NUMBER	FUNCTION	TECHNOLOGY	REF.NO. RECORD	RECORD
PART NUMBER SPECIFICATION AD571 TYPE PART QTY. BIAS	571	10-BIT A/D CONVRTR			3123
AD571 RAD. TYPE PART QTY. BIAS			SPECIFICATION	DATA SOL	JRCE
RAD. TYPE PART GTY.	; ;				
				1 1 1 1 1 1 1	

CUM. DOSE (RADS):	(RADS):				30K	75K	J	£	150K		300K
PARAMETERS	· S2	MEAN SD	SD	MEAN	MEAN SD	MEAN SD	SD	MEAN SD	SD	MEAN	MEAN SD
102L(5) 102L(15) 102L(15) VOH(5) 10H(5) 10H(15)	ZZ ZZ ZZ ZZ ZZ ZZ ZZ ZZ ZZ ZZ ZZ ZZ ZZ										
* REMARKS: CONTINUATION OF RECORD 3122.	CONTIN	JATION	OF REC	ORD 3	122. *(*PARAMETERS CONTINUED ON RECORD 3124	CON	TINUED	ON REC	CORD 3	124.

RECORD 3124

REF.NO. 4-6

TECHNOLOGY

10-BIT A/D CONVRTR.

FUNCTION

GENERIC PART NUMBER

571

DATA SOURCE

SPECIFICATION

PART NUMBER

MANUFACTURER ADI

AD571

BIAS

PART OTY.

RAD. TYPE

rpc

PAGE A-265

ORI	GINAL	PAGE	is
OF	POOR	QUAL	ity,

		ļ ·-					
300K	MEAN SD	FAIL	1830	FAIL	FAIL		
150K	ı	 					
Ţ		502			FAIL		
75K	SD	‡ 1 ‡ ‡					
75K	MEAN	80.8	34.2	1.585	6.14		
¥		 					
ЭОК	MEAN	18.29	18.29	8.18	11.56		
,	SD	 					
0	MEAN SD	12.91	14.87	10.49	14.10		
RADS):	SO.	Σ	₹	MA	MA		
CUM.DOSE(RADS)	PARAMETERS	VOL (5)	VOL(15)	101(5)	IOL (15)	END	40

PARAMETERS. REMARKS: CONTINUATION OF RECORD 3123.

GENER	GENERIC PART NUMBER	NUMBI		FUNCTION	ION		TECH	TECHNOLOGY		_	REF.NO.	RECORD
571			- ·	10-BI	T. A/D (10-BIT A/D CONVRTR.	111] 		1	1-7	3130
MANUF	MANUFACTURER			PART	PART NUMBER		SPEC	SPECIFICATION	NOI		DATA SOURCE	JRCE
ADI				AD571	! ! !	; 1 1 1 1		; ; ; ; ;	, 	 !	JPL	! ! ! !
TDC	RAD, TYPE	FYPE	PART	PART OTY.	BIAS							
R&D	2.5MEV EL	/ EL		1	VCC=	VCC=15V, VDD=-15V)=-15V.	1	! ! !	; ; ;	; ; ; ;	
CUM. DC	CUM.DOSE(RADS):		0			30K		75K	#	150K		300K
PARAMETERS	TERS	Ξ	MEAN	SD	MEAN	SO	MEAN	SS	MEAN	SD	MEAN	SD
ICC-BL	ICC-BLK(5)*MA		1.50	 	1.50		1.55		1.55	 	FAIL
ICC-BL	.K(15)MA	_	ы Э		e E	_	5.4		5.4		FAIL	
10-001	ICC-CONV(5)MA		5.20		4.95		4.85		4.45		FAIL	
ICC-CN	CC-CNV(15)MA	_	1.68		11.33		11,25		10.82		FAIL	1
TBLANK(5)			0.99		1.08		1.17		2.18		FAIL	
TBLANK(15)	((15) US		0.96		1.03		1.98		2,32		FAIL	,
PARA	PARAMETERS	ŏ	CONT	_	REC.	3131.		7. 1 1. 1	!			
KEMAKE	REMARKS: *()=VCC.	=VCC.	NOTE:		MEAN "	WORST-(WORST-CASE PARAMETER	AMETER	VALUE	LON)	YALUE (NOT AVERAGE)	<u>::</u>

GENERIC PART NUMBER		FUNCTION	Z		TECHNOLOGY	LOGY		REF.NO.	
571	\$	-BIT	10-BIT A/D CONVRTR.	NVRTR		! ! ! ! !	 	1-7	3131
MANUFACTURER	A	PART NUMBER	MBER		SPECIF	SPECIFICATION		DATA SOURCE	URCE
ADI	AD	AD571	 	; ; ; ;	! ! ! !	 		! ! ! !	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
LDC RAD. TYPE	E PART QTY.	ΤΥ. 	BIAS						1
CUM. DOSE(RADS):	0	1	en	30K	75K		150K		300K
PARAMETERS	MEAN	SD	MEAN	SD	MEAN SD	!	MEAN SD	T S .	as I
	30.3	£	31.9	! ! !	32.9	Ö	34.6	FAI	
TCONV(15) US	30.3		32.0		33.0	Ŕ	34.5	FAI	لـ
	15.78		21.9		445		391	FAI	۔
IIH(15) NA	18.09		28.8		668	-	563	FAI	۔ ۔
	0.71		1.07		1.12	-	19	FAI	_
	0.86		1.25		1.21	-	. 28	FAIL	
			9			1 4 6 6			4
KEMAKKS: CONIIN	CONTINUATION OF RECORD 3130.	RECO	RD 313		*PARAMETERS CONTINUED ON RECORD 3132	CONITR	UED ON	RECORD 3	132.

GENERIC PART NUMBER	FUNCTION	TECHNOLOGY	REF.NO. RECORD
571	10-BIT A/D CONVRTR.	111	1-7 3132
MANUFACTURER	PART NUMBER	SPECIFICATION	DATA SOURCE
ADI	AD571		
LDC RAD. TYPE PART QTV.		BIAS	

CUM. DOSE (RADS):	1	•	(7)	30K	_	75K	<u>.</u>	150K	30	300K
ARAMETERS	MEAN	SD	MEAN	as	MEAN	SD	MEAN	SD	MEAN	SD
IEE-BLK(5) MA	9.70	 	9.54	! ! !	9,48	!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!	9.39	; ; ;	FAIL	
IEE-CONV(5)MA	10.97		10.75		10.6		0		FAIL	
JFFSET MV	1,295		2.24		130		635		FAIL	
JFFERR LSB	0.132		0.229		12.9		FAIL		FAIL	
NONLIN LSB	0.153		0.263		0.453		FAIL		FAIL	
IOZH(5) NA	0.511		30.4		1760		2560		FAIL	
IOZH(15)* NA	1.26		57.9		2190		3210		FAIL	
REMARKS: CONTIN	MATION	HO.	RECORD 3133		*DADAMETEDS CONTINUED ON DECODO 2422	ACC POR	TIMIED	ON DEC	C10 000	·

ORIGINAL PAGE IS OF POOR QUALITY

GENERIC PART NUMBER	NUMBER	NO.	FUNCTION			TEC	TECHNOLOGY		12	REF.NO. RECORD	RECORD
571	1 1 1 1 1	 	10-BIT A/D CONVRTR	/D CO	VRTR	111	! !	 	-	1-7	3133
MANUFACTURER		PAR	PART NUMBER	SER		SPE	SPECIFICATION	LION		DATA SOURCE	JRCE
ADI	 	AD571	7.1	! 	! ! ! !	; ; ;	; ; ;	 	i i i	 	
LDC RAD.	RAD. TYPE P	PART OTY.		BIAS				1		;	1
			i ļ								
CUM.DOSE(RADS):	S):	0		ĕ	30K	•	75K	ē.	150K		300K
PARAMETERS	A A A A A	S	- }	MEAN	SD	MEAN	SD	MEAN	SD	MEAN	SD
102L(5) N	A 0.098	1 86	i	27.1	! ! !	1100	1 	2990	; ! ! !	FAI	! ! ! ! !
IOZL(15) N	A 0.490	0		85.6		2700		6180		FAIL	
V0H(5)	V 4.93	20	•	4,93		4.91		4.91		FAII	
VOH(15)		35	-	14.85		14.83		14.83		FAI	
	MA 26	*	ฉ	26.53		26, 14		23.18		FAI	_1
10H(15)	A 24	&	••	24.6		23.8		23.7		FAI	· ·
* REMARKS: CONTINUATION OF RECORD 3132.	ITINUATIC	N OF	RECOR	3132		ARAMETI	ERS CON	*PARAMETERS CONTINUED ON RECORD 3134	ON RE	CORD 3	134.

GENERIC PART NUMBER		TECHNOLDGY	
571	19-BIT A/D CONVRTR.	11L +-7	1-7 3134
MANUFACTURER		SPECIFICATION	DATA SOURCE
ADI	AD571	f t 1	E
LDC RAD. TYPE PART 0TY.	ART OTY. BIAS		

CUM.DOSE(RADS):	RADS):	0		(*)	30 K	_	75K	π.	150K
PARAMETERS		MEAN SD	EAN SD	MEAN SD	SD	MEAN SD	S	MEA'N SD	SD
VOL (5)		15.2	 	17.0	! { !	14.5	1 1 1 1	26.2	; ; ; ;
VOL (15)	≩	19.2		20.3		21.4		26.1	
101(5)	Æ	8.57		8, 18		7.85	-	FAIL	
IOL (15)	MA	11.6		11.5		10.9		FAIL	
END									
Ą									

SD

MEAN

FAIL FAIL FAIL FAIL

300K

PARAMETERS
REMARKS: CONTINUATION OF RECORD 3133.

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10-BIT A/D CONVRTR. III	57.1	! ! !	10-BIT	A/D	NVRTR.	<u> </u>	 		! -	6-	3140
RAD. TYPE)	1		,			•)	
PART NUMBER SPECIFICATION DATA SQUEC											
RAD. TYPE PART GTY. 2. SHEV EL 1 VCC=15V, VDD=-15V. DOSE(RADS): 0 30K 75K 150K 600 WHETERS MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD SD SD SD SD SD SD SD SD SD SD SD SD	MANUFACTURER			UMBER		SPEC	SIFICAL	NOI	٥		CE
Continue	ADI	! !	AD571						י די !	7	
2.5MEV EL 1 VCC=15V, VDD=-15V. DOSE(RADS): 0 30K 75K 150K 600 BLK(5) MA 1.45 1.40 1.52 1.65 3.35 BLK(5) MA 1.45 1.40 1.52 1.65 3.35 CONV(15) MA 3.50 3.05 3.65 3.85 3.35 CONV(15) MA 3.50 3.00 30K 4.60 4.60 3.10 SANK(15) MS 848 8.60 8.35 8.60 3.10 SANK(15) MS 848 8.60 8.35 8.60 8.35 6.92 SANK(15) MS 848 8.60 8.35 8.60 8.35 6.92 SANK(15) MS 848 CODES CONT. SANK(15) MS 848 8.60 8.35 8.60 SANK(15) MS 848 8.60 8.35 8.90 SANK(15) MS 848 8.60 8.35 8.90 SANK(15) MS 848 8.60 8.35 8.90 SANK(15) MS 848 8.60 8.35 8.90 SANK(15) MS 848 8.60 SANK(15) MS 848 8.60 SANK(15) MS 848 8.60 SANK(15) MS 848 8.60 SANK(15) MS 848 8.60 SANK(15) MS 848 8.60 SANK(15) MS 848 8.60 SANK(15) MS 848 8.60 SANK(15) MS 848 8.60 SANK(15) MS 848 8.60 SANK(15) MS 848 8.60 SANK(15) MS 848 8.60 SANK(15) MS 848 8.60 SANK(15) MS 848 8.60 SANK(15) MS 848 8.60 SANK(15) MS 848 8.60 SANK(15) MS 848 8.60 SANK(15) MS 848 8.60 SANK(15) MS 848 8.60 SANK(15) MS 848 8.60 SANK(15) MS 849 8.60 SANK(15) MS 849 8.60 SANK(15) MS 849 8.60 SANK(15) MS 849 8.60 SANK(15) MS 849 8.60 SANK(15) MS 849 8.60 SANK(15) MS 849 8.60 SANK(15) MS 849 8.60 SANK(15) MS 849 8.60 SANK(15) MS 849 8.60 SANK(15) MS 849 8.60 SANK(15) MS 849 8.60 SANK(15) MS 849 8.60 SANK(15) MS 849 8.60 SANK(15) MS 849 8.60 SANK(15) MS 849 8.60 SANK(15) MS 849 8.60 SANK(15) MS 849 8.60 SANK(15) MS 849 8.60 SANK(15) MS 849 8.60 SANK(15) MS 849 8.60 SANK(15) MS 849 8.60 SANK(15) MS 849 8.60 SANK(15) MS 849 8.60 SANK(15) MS 849 8.60 SANK(15) MS 849 8.60 SANK(15) MS 849 8.60 SANK(15) MS 849 8.60 SANK(15) MS 849 8.60 SANK(15) MS 849 8.60 SANK(15) MS 849 8.60 SANK(15) MS 849 8.60 SANK(15) MS 849 8.60 SANK(15) MS 849 8.60 SANK(15) MS 849 8.60 SANK(15) MS 849 8.60 SANK(15) MS 849 8.60 SANK(15) MS 849 8.60 SANK(15) MS 849 8.60 SANK(15) MS 849 8.60 SANK(15) MS 849 8.60 SANK(15) MS 849 8.60 SANK(15) MS 849 8.60 SANK(15) MS 849 8.60 SANK(15) MS 849 8.60 SANK(15) MS 849 8.60 SANKEAL MS 840 SANK(15) MS 840 SANK(15) MS 840 SANK(15) MS 840 S	RAD.		OTY.	BIAS							
METERS MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD	 		+	VCC= 15	ı	15V.	 	; ; ; ;	! ! !	; 1 1 1 1 1 1 1	
METERS MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD	CUM.DOSE(RADS)		I	()	OK I		75K		30K		Š
BLK (15) MA 1.45 1.40 1.52 1.65 1.40 BLK (15) MA 3 EV 3.45 3.65 3.85 3.85 3.35 CONV(5) MA 9.85 8.98 8.60 8.35 3.35 NWK (15) NS 890 8.60 8.35 6.92 NWK (15) NS 800 920 990 990 1770 NWK (15) NS 800 920 990 990 1770 NWK (15) NS 800 920 990 990 1770 NWK (15) NS 800 920 990 990 1770 NWK (15) NS 800 920 930 990 1770 NWK (15) NS 800 920 930 990 1770 NWK (15) NS 800 920 930 990 1770 NWK (15) NS 800 920 930 990 1770 NWK (15) NS 800 920 930 930 990 1730 970 1730 NWK (15) NS 800 920 920 920 930 930 1730 970 1730 930 1730 930 1730 930 1730 930 1730 930 1730 930 1730 930 1730 930 1730 930 1730 930 1730 930 1730 930 1730 930 1730 930 1730 930 1730 930 1730 930 1730 930 1730 930 1730 930 1730 930 1730 930 1730 930 1730 930 1730 930 1730 930 1730 930 1730 930 1730 930 1730 930 1730 930 1730 930 1730 930 1730 930 1730 930 1730 930 1730 930 1730 930 1730 930 1730 930 1730 930 1730 930 1730 930 1730 930 1730 930 1730 930 1730 930 1730 930 1730 930 1730 930 1730 930 1730 930 1730 930 1730 930 1730 930 1730 930 1730 930 1730 930 1730 930 1730 930 1730 930 1730 930 1730 930 1730 930 1730 930 1730 930 1730 930 1730 930 1730 930 1730 930 1730 930 930 930 930 930 930 930 930 930 9	PARAMETERS	MEAN	S	MEAN	S	MEAN	SD	MEAN	SD	MEAN	OS .
DOSE(RADS): 0 3.45 5.45 5.45 5.45 5.45 5.45 5.45 5.45	_	1.45		4.4) } !	1.52		1.65	1.	4.40	
-CNV(15)MA 9.95 8.96 8.60 8.35 6.92 NNK(15) NS 930 920 970 1030 FAIL AAMETERS & DATE CODES CONT. ON REC. 3141. RAD. TYPE PART QTY. BIAS NNK(15) US 22.0 23.6 6.92 ANK(15) US 22.0 23.6 6.92 NNK(15) US 3.01 NN 17.4 35.0 1330 (15) UM 3.01 NN 3.01 NN 3.01 NN 3.01 NN 3.01 NN 3.01 NN 3.01 NN 3.01 NN 3.01 NN 3.01 NN 3.01 NN 3.01 NN 3.01 NN 3.01 NN 3.01 NN 3.01 NN 3.01 NN 3.01 NN 3.01 NN 3.01 NN 3.01 NN 3.01 NN 3.01 NN 3.01 NN 3.01 NN 3.01 NN 3.01 NN 3.01 NN 3.01 NN 3.01 NN 3.01 NN 3.01 NN 3.01 NN 3.01 NN 3.01 NN 3.01 NN 3.01 NN 3.01 NN 3.01 NN 3.01 NN 3.01 NN 3.01 NN 3.01 NN 3.01 NN 3.01 NN 3.01 NN 3.01 NN 3.01 NN 3.01 NN 3.01 NN 3.01 NN 3.01 NN 3.01 NN 3.01 NN 3.01 NN 3.01 NN 3.01 NN 3.01 NN 3.01 NN 3.01 NN 3.01 NN 3.01 NN 3.01 NN 3.01 NN 3.01 NN 3.01 NN 3.01 NN 3.01 NN 3.01 NN 3.01 NN 3.01 NN 3.01 NN 3.01 NN 3.01 NN 3.01 NN 3.01 NN 3.01 NN 3.01 NN 3.01 NN 3.01 NN 3.01 NN 3.01 NN 3.01 NN 3.01 NN 3.01 NN 3.01 NN 3.01 NN 3.01 NN 3.01 NN 3.01 NN 3.01 NN 3.01 NN 3.01 NN 3.01 NN 3.01 NN 3.01 NN 3.01 NN 3.01 NN 3.01 NN 3.01 NN 3.01 NN 3.01 NN 3.01 NN 3.01 NN 3.01 NN 3.01 NN 3.01 NN 3.01 NN 3.01 NN 3.01 NN 3.01 NN 3.01 NN 3.01 NN 3.01 NN 3.01 NN 3.01 NN 3.01 NN 3.01 NN 3.01 NN 3.01 NN 3.01 NN 3.01 NN 3.01 NN 3.01 NN 3.01 NN 3.01 NN 3.01 NN 3.01 NN 3.01 NN 3.01 NN 3.01 NN 3.01 NN 3.01 NN 3.01 NN 3.01 NN 3.01 NN 3.01 NN 3.01 NN 3.01 NN 3.01 NN 3.01 NN 3.01 NN 3.01 NN 3.01 NN 3.01 NN 3.01 NN 3.01 NN 3.01 NN 3.01 NN 3.01 NN 3.01 NN 3.01 NN 3.01 NN 3.01 NN 3.01 NN 3.01 NN 3.01 NN 3.01 NN 3.01 NN 3.01 NN 3.01 NN 3.01 NN 3.01 NN 3.01 NN 3.01 NN 3.01 NN 3.01 NN 3.01 NN 3.01 NN 3.01 NN 3.01 NN	ICC-CONV(5)MA	ာ က မ		5. 60 0. 60		4.60		20 4 10 10 10 br>10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 1		3.50	
AMETERS MEAN SD 920 970 1030 FAIL ARKS: NOTE: MEAN = WORST-CASE PARMETER VALUE (NOT AVG.) © VDD=15V, VCC ***********************************	ICC-CNV(15)MA	9.03		8.98		8.60		8.35		6.92	
AMMETERS MEAN SD SOS SOS SOS SOS SOS SOS SOS SOS SOS		930		920		970		1030		FAIL	
RAD. TYPE PART GTY. BIAS RAD. TYPE PART GTY. BIAS METERS MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEA	*PARAMETERS &	880 DATE	CODES	SOS CONT.	Š	995 REC.	3141.	1170		FAIL	
10-BIT A/D CONVRTR.	GENERIC PART N	UMBER	FUNCT	NC.			NOT DGY			EF.NO. R	ECORE
PART NUMBER SPECIFICATION DATA SOURC	57.1	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	10-BIT	A/D CG	NVRTR.	111			-	6-	3141
PART NUMBER SPECIFICATION DATA SOURC											
RAD. TYPE PART QTY. BIAS DOSE(RADS): O 30K 75K 150K 600 AMETERS MEAN SD REAN SD MEAN SD MEAN V(5) US 22.0 23.6 25.4 28.5 FAIL (5) NA 17.4 35.0 1130 1390 1050 (5) UA 3.01 3.59 3.40 3.27 3.70 (5) UA 3.48 4.04 3.78 3.63 4.13	MANUFACTURER		PART	UMBER		SPEC	SIFICAL	NOI	۵		SCE
RAD. TYPE PART QTY. BIAS DOSE(RADS): O 30K 75K 150K 600 AMETERS MEAN SD REAN SD MEAN SD MEAN V(15) US 22.0 23.6 25.4 28.5 FAIL V(15) US 22.0 23.6 25.4 28.5 FAIL (5) NA 17.4 35.0 1130 1350 1050 (5) UA 3.01 3.59 3.40 3.27 3.70 (5) UA 3.48 4.04 3.78 3.63 4.13	ADI		AD571		-				! ! !		
ADS): C 30K 75K 150K 600 MEAN SD MEAN SD MEAN SD MEAN SD MEAN US 20.1 23.6 25.4 28.5 FAIL US 22.0 23.6 25.4 28.6 FAIL NA 17.4 35.0 1130 1350 UA 3.01 3.59 3.40 3.27 3.70 UA 3.48 4.04 3.78 3.63 4.13	RAD.			BIAS							
MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD SD SD SD SD SD SD SD SD SD SD SD SD											
MEAN SD REAN SD MEAN SD MEAN SD MEAN US 20.1 23.6 25.4 28.5 FAIL US 22.0 23.6 25.4 28.6 FAIL NA 17.4 35.0 1130 1390 1050 NA 19.4 50.2 1640 1950 1320 UA 3.01 3.59 3.40 3.27 3.70 UA 3.48 4.04 3.78 3.63 4.13	CUM. DOSE(RADS)				Š	,-	75K		30 K	မွ	ğ.
5) US 20.1 23.6 25.4 28.5 NA 17.4 35.0 1130 1390 NA 19.4 50.2 1640 1950 UA 3.01 3.59 3.40 3.27 UA 3.48 4.04 3.78 3.63	PARAMETERS	MEAN	S	MEAN	SD	MEAN	So	MEAN	SD	MEAN	S
NA 17.4 35.0 1130 139G NA 19.4 50.2 1640 1950 UA 3.01 3.59 3.40 3.27 UA 3.48 4.04 3.78 3.63	_	20.1	r !	23.6		25.4		28.5	u.	FAIL	
NA 19.4 50.2 1640 1950 UA 3.01 3.59 3.40 3.27 UA 3.48 4.04 3.78 3.63		17.0		2 2 2				2007		147	
UA 3.01 3.59 3.40 3.27 UA 3.48 4.04 3.78 3.63		- 6		50.0		1640		2000 CR00		1320	
UA 3.48 4.04 3.78 3.63		3.01		3.59		3.40		3.27		3.70	

RECORD 3142

REF.NO.

TECHNOLOGY

FUNCTION 10-BIT A/D CONVRTR.

GENERIC PART NUMBER

571

DATA SOURCE

SPECIFICATION

PART NUMBER

MANUFACTURER

ADI

RAD. TYPE PART QTY. BIAS

2

PAGE A-269

CUM. DOSE (RADS):	08):	0			30K	1-	75K		150K	Ÿ	600K
PARAMETERS		MEAN	SD	MEAN		MEAN	S	MEAN	SD	MEAN	SD
IEE-BLK(5)	W S	7.6) 	9	 	4.6) 	6.6	 	0.6	i ! !
	Œ Z	2 6				? ¢		n c			
		0.067		0. 165		2 -		24.5		5 5	
	LSB	0.18		0.25		0.41		0.49		0.76	
_	N A	0.51		215		2350		6220		2370	
IOZH(15) REMARKS: CO	NA 5.8 CONTINUATION		FROM R	5.9 RECORD 3	3141. P.	24600 PARAMETERS		24800 CONTINUED	ON RECORD	FAIL CORD 314:	43.
**************************************	*******T	**** BER	****** FUNCTION	******	* * * * * *	******* TEC	**********	**************************************	* **	*	******
571	1 	 	10-BIT	A/D	CONVRTR.	111		1	i ÷ .	1-9-1	3143
MANUFACTURER	œ		PART N	PART NUMBER		SPEC	SPECIFICATION	LION	ã.	DATA SOURCE	RCE
ADI	 	! ! !	AD571	: : : : :	! ! !		! ! !	; ; ; ; ; ;	i ! !	1	;
LDC RAD.	TYPE	PART	OTV.	BIAS	i 1 1 1	! ! !		,			
4 d d 4 d d 4 d d 4 d d 4 d d 4 d d 4 d d 4 d d 4 d d 4 d d 4 d d 4 d d 4 d d 4 d d 4 d d 4 d d 4 d d 4 d d 4 d d 4 d d 4 d d 4 d d 4 d d 4 d d 4 d d 4 d d 4 d d 4 d d 4 d d 4 d d 4 d d 4 d d 4 d d 4 d d 4 d d 4 d d 4 d d 4 d d 4 d d 4 d d 4 d d 4 d d 4 d d 4 d d 4 d d 4 d d 4 d d 4 d d 4 d d 4 d d 4 d d 4 d d 4 d d 4 d d 4 d d 4 d d 4 d d 4 d d 4 d d 4 d d 4 d d 4 d d 4 d d 4 d d 4 d d 4 d d 4 d d 4 d d 4 d d 4 d d 4 d d 4 d d 4 d d 4 d d 4 d d 4 d d 4 d d 4 d d 4 d d 4 d d 4 d d 4 d d 4 d d 4 d d 4 d d 4 d d 4 d d 4 d d 4 d d 4 d d 4 d d 4 d d 4 d d 4 d d 4 d d 4 d d 4 d d 4 d d 4 d d 4 d d 4 d d 4 d d 4 d d 4 d d 4 d d 4 d d 4 d d 4 d d 4 d d 4 d d 4 d d 4 d d 4 d d 4 d d 4 d d 4 d d 4 d d 4 d d 4 d d 4 d d 4 d d 4 d d 4 d d 4 d d 4 d d 4 d d 4 d d 4 d d 4 d d 4 d d 4 d d 4 d d 4 d d 4 d d 4 d d 4 d d 4 d d 4 d d 4 d d 4 d d 4 d d 4 d d 4 d d 4 d d 4 d d 4 d d 4 d d 4 d d 4 d d 4 d d 4 d d 4 d d 4 d d 4 d d 4 d d 4 d d 4 d d 4 d d 4 d d 4 d d 4 d d 4 d d 4 d d 4 d d 4 d d 4 d d 4 d d 4 d d 4 d d 4 d d 4 d d 4 d d 4 d d 4 d d 4 d d 4 d d 4 d d 4 d d 4 d d 4 d d 4 d d 4 d d 4 d d 4 d d 4 d d 4 d d 4 d d 4 d d 4 d d 4 d d 4 d d 4 d d 4 d d 4 d d 4 d d 4 d d 4 d d 4 d d 4 d d 4 d d 4 d d 4 d d 4 d d 4 d d 4 d d 4 d d 4 d d 4 d d 4 d d 4 d d 4 d d 4 d d 4 d d 4 d d 4 d d 4 d d 4 d d 4 d d 4 d d 4 d d 4 d d 4 d d 4 d d 4 d d 4 d d 4 d d 4 d d 4 d d 4 d d 4 d d 4 d d 4 d d 4 d d 4 d d 4 d d 4 d d 4 d d 4 d d 4 d d 4 d d 4 d d 4 d d 4 d d 4 d d 4 d d 4 d d 4 d d 4 d d 4 d d 4 d d 4 d d 4 d d 4 d d 4 d d 4 d d 4 d d 4 d d 4 d d 4 d d 4 d d 4 d d 4 d d 4 d d 4 d d 4 d d 4 d d 4 d d 4 d d 4 d d 4 d d 4 d d 4 d d 4 d d 4 d d 4 d d 4 d d 4 d d 4 d d 4 d d 4 d d 4 d d 4 d d 4 d d 4 d d 4 d d 4 d d 4 d d 4 d d 4 d d 4 d d 4 d d 4 d d 4 d d 4 d d 4 d d 4 d d 4 d d 4 d d 4 d d 4 d d 4 d d 4 d d 4 d d 4 d d 4 d d 4 d d 4 d d 4 d d 4 d d 4 d d 4 d d 4 d d 4 d d 4 d d 4 d d 4 d d 4 d d 4 d d 4 d d 4 d d 4 d d 4 d d 4 d d 4 d d 4 d d 4 d d 4 d d 4 d d 4 d d 4 d d 4 d d 4 d d 4 d d 4 d d 4 d d 4 d d 4 d d 4 d d 4 d d 4 d d 4 d d	6	•		•			1	ţ		č	Š
COM. DOSE (KADS) :		0		7 1 1 1 1	50 Y	,	/3K	D !	130K	1 0	600K
PARAMETERS		MEAN	SO	MEAN	SO	MEAN	SD		SD	MEAN	SD
5)	Y X	0.053): ! !	0.212		1910		2980	i 	FAIL	
- 2	NA NA	10.8		11.4		4510		16200		2110	
	>	4.87		4.88		4.89		4.85		4.84	
VOH(15)	>	14.72		14.75		14.74		14.74		14.53	
(S)HO1	MA	28.3		27.7		27.2		25.3		FAIL	
	:				-						

DATA SOURCE

SPECIFICATION

PART NUMBER

MANUFACTURER

ADI

AD571

BIAS

RAD. TYPE PART GTY.

11111

LDC

REF.NO. RECORD

TECHNOLOGY 111

10-BIT A/D CONVRTR.

FUNCTION

GENERIC PART NUMBER

571

1. 1. 1. 1. 1.

OR	IGINAL.	PAGE	13
OF,	POOR	QUALI	ΥΥ

300
MEAN
13.65
16.13
10.8
14.6
REMARKS: CONTINUATION FROM RECORD 3143.

IGY REF.NO.	BIPOLAR 401-1 3800	SPECIFICATION DATA SOURCE	INSAT-PCC 860		5.000	26	as	* * * * * * * * * * * * * * * * * * * *
FUNCTION	ONVERTER	PART NUMBER	AD571	RT QTV. BIAS	1 V+=+5.00V, V-=-15.00V		D MEAN SD	9.941 9.917
GENERIC PART NUMBER	571	MANUFACTURER	AD	LDC RAD. TYPE PART	UNK. CD-60	CUM.DOSE(RADS): 0	PARAMETERS MEAN	1 V(IN) V 9.949

REMARKS: *"TWO POINTS MALFUNCTIONED." ("POINTS"=PINS? -EDITOR.)

PASE A-270

RECORD -----5580

REF.NO.

TECHNOLOGY

IIL

10-BIT A/D CONVERTR

FUNCTION

GENERIC PART NUMBER

1056

DATA SOURCE

SPECIFICATION

PART NUMBER

AD571

ANALOG DEVICES

MANUFACTURER

32

V+=+5V; V-=-15V.

BIAS

PART OTY. 9

RAD. TYPE F

LDC 8013

ORI	GINAL	PAGE I	5
OF	POOR		Y

CUM.DOSE(RADS):	(RADS):	.	0	*N+30K	ž Š						
PARAMETERS	S	MEAN SD	SD	MEAN SD	S	MEAN SD	MEAN SD	MEAN	MEAN SD	MEAN SD	MEAN SD
VOS(ABS)	≥	2.667	2.092		10.72	; ! !	! ! ! !	; ; ; ;	 	1	[]]
VOL9	≥	146.7	9.615	183.7 20.33	20.33						
VOL2	≥	144.5	8.396		17.14						
VOL8	≥	143.8	7.861		.8.38						
VOL1	≥	150.1	8.175		186.6 17.67						
VOL 7	¥	144.1	144.1 8.164		180.5 17.97						
** REMARKS: *NEUTRON RAD. = 6E11 M/SQCM. **CONTINUED ON RECORD 5581.	*NEUTRC	IN RAD	. = 6E1	1 N/SQC	**	CONTINU	IED ON	RECORD	5581.		

GENERIC PART NUMBER		z	TECHNOLOGY.		REF.NO. RECORD	RECORD
571	0	10-BIT A/D CONVERTR	III	 	1056	5581
MANUFACTURER	PAR	PART NUMBER	SPECIFICATION	NOI.	DATA SOURCE	URCE
ANALOG DEVICES	AD571	7.1	; ; ; ; ; ; ; ; ;		1	
LDC RAD. TYPI	RAD. TYPE PART 9TY.	Y. BIAS		; ; ; ; ;	: : : : : :	i ! ! !
CUM.DOSE(RADS):	0	N+30K				
PARAMETERS	MEAN SD	MEAN SD	MEAN SD	MEAN SD	MEAN	SD

16.88 16.89 13.50 17.35 17.34 66.74 3 9.98 MEAN 155.4 7.660 144.5 8.433 144.7 8.394 144.3 8.463 144.1 40.4 MEAN **\$\$\$\$\$**\$ VOL 18 VOL6 VOL 17 VOL5 VOL.4 VOL.3

REMARKS: CONTINUATION OF RECORD 5580.

SENERIC PART NUMBER	FUNCTION	NO		TECF	TECHNOLOGY		œ	_	RECORD
571	10-BIT	10-BIT A/D CONVERTR	NVERTR	111	! ! ! !	 	· -	1076	5780
MANUFACTURER	PART NUMBER	UMBER		SPEC	SPECIFICATION	NOI	۵	DATA SOURCE	RCE
ANALOG DEVICES	AD571	1 1 1 1 1 1 1 1		 	 		· -	TRW	
RAD. TYPE	PART OTY.	BIAS					j	, , ,	
UNK: C0=60 + N*	O.	V+=+5V	V+=+5V; V-=-15V	15V.	 				
CUM. DOSE (RADS):	. 0	*N+30K	30K	*N+40K	1 0K	*N+60K	30K	*N+80K	BOK
PARAMETERS MEAN	QS N	MEAN	SO	MEAN	SO	MEAN	SD	MEAN	SD
	159.5 12.36	181.1	181.1 14.00	185.7	185,7 14.87	210.0 26.58	26.58		270.5 89.28
MA.	19.89 2.764	15.65	2.986		3.023	12,55	3,259		10.28 3.263
VOH(11)** V 3.5	3.570.0355 -1.55.4.409	3.540	4.476	•	3.537 . Uses 769 4 . 546	119 4.600	4.600	י	.656 4.592
	.5 1747.	783.5	783.5 1747.	783.1 1747.	1747.	783.5	783.5 1747.	7	1747.
CONTINUED ON REC. 5781 DEMADES *NEITEDN FLIENCE=6 (11 N/SOCM ** (X) MEANS PARAM. AVG. OVER X PINS.	ON REC.	5781	WOOS	(×)	MEANS	PARAM	ΔVG	OVER X	PINS.

GENERIC PART NUMBER	BER FUNCTION	NO	TECHNOLOGY		REF.NO. RECORD	RECOR
571	10-817	10-BIT A/D CONVERTR	IIL); ; ; ; ; ; ; ; ; ;	1076	5781
MANUFACTURER	PART NUMBER	UMBER	SPECIFICATION		DATA SOURCE	RCE
ANALDG DEVICES	AL:571	1 1 1 1 1 1 1 1 1 1 1				
LDC RAD, TYPE	RAD. TYPE PART OTY.	BIAS		1 1 1 1 1	# 	
CUM.DOSE(RADS):	•	N+30K	N+40K	N+60K	N+70K	N+70K
PARAMETERS	MEAN SD	MEAN SD		MEAN SD	MEAN	SD
-TOS(11) MA	54.47 5.195	54.47 5.195 54.62 5.219	54.95 5.257	56.81 5.519		_

+CONTINUED ON RECORD 5782. REMARKS: CONTINUATION OF RECORD 5780.

GENERIC PART NUMBER	FUNCTION 10-BIT A/D CONVERTR	TECHNOLOGY II.	REF.NO. RECORD	RECORD5782
MANUFACTURER ANALDG DEVICES	PART NUMBER	SPECIFICATION	DATA SOURCE	JRCE

BIAS

PART OTY.

RAD. TYPE

TDC

CUM. DOSE(RADS):	J		ž	N+30K	Ž	N⊹40K	**	N+60K	¥ 2	N+80K
PARAMETERS	MEAN SD	SD	MEAN SD	MEAN SD	MEAN SD	MEAN SD	MEAN SD	WEAN SD	MEAN SD	So
LINEARITY(+)	1 1 1 1 :	1 1 1 1 1	1 1 1 1	1 1 1 1 1 1 1 1			i i i			! ! ! !
MILLI-LSB	228.8	115.8	374.2	72.42	452.7	100.9	228.8 115.8 374.2 72.42 452.7 100.9 570.0 150.0 781.6 148.2	150.0	781.6	148.
-LINEARITY(-)										
MILLI-LSB	276.5	61.89	420.1	61.75	471.0	120.0	276.5 61.89 420.1 61.75 471.0 120.0 653.4 114.0 704.4 194.1	114.0	704.4	194
STEP-										
DEVIATION(+)										
MILLI-LSB 213.0 65.25 296.1 73.72 356.9 92.98 500.6 128.8 642.1 143.7	213.0	65.25	296.1	73.72	356.9	92.98	500.6	128.8	642.1	143.7
DEMADYS. CONTINUATION OF DECORD 5781	MATTON	OF DEC	175 GOD	**	S	TIMIED	CALT NO DECODE 5783	מלה חסר	œ.	

GENERIC PART NUMBER	FUNCTION	TECHNOLOGY	REF.NO. RECORD	RECORC
57.1	10-BIT A/D CONVERTR	IIL	1076	5783
MANUFACTURER	PART NUMBER	SPECIFICATION	S	URCE
ANALOG DEVICES	AD571			
LDC RAD. TYPE PART QTY.	PART QTY. BIAS		3 1 5 1 1 1 1 4	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1

CUM.DOSE(RADS):	0	•	N+30K	POK	¥	N+40K	14+60K	N+60K	N+80K	₩.
PARAMETERS	MEAN	MEAN SD	MEAN	MEAN SD	MEAN SD MEAN SD	as	MEAN SD	SD	MEAN SD	SD
-STEP-										
MILLI-LSB	178.0	44.91	156.1	22.17	155.8	22.06	174.6	27.54	178.0 44.91 156.1 22.17 155.8 22.06 174.6 27.54 153.8 21.78	21.78
	j		1			1	1		(
SCALE V -OFFSET	9.966	.0039	9.944	.0077	9.939	.00g	9.925	.0116	V 9.966 .0039 9.944 .0077 9.939 .0082 9.925 .0116 9.916 .0125	.0125
VDLTAGE V .6724 3.660 .8900 5.105 1.285 4.951 2.452 5.794 20.13 33.2€	.6724	3.660	.8900	5.105	1.285	4.951	2.452	5.794	20.13	33.2€
REMARKS: CONTINUATION FROM RECORD 5782.	IUATION	FROM R	ECORD 5	5782.		UNITNO	ED ON A	RECORD	5784	

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OF	POOR	QUALI	ΤY

	GENERIC PART NUMBER	MBER	FUNCTION	NO		TEC	TECHNOLOGY		3	REF.NO. RECORD	RECORD
1	571		10-BIT	A/D C	10-BIT A/D CDNVERTR	II.	! ! !	1	1 1	1076	5784
	MANUFACTURER		PART NUMBER	IÜMBER		SPEC	SPECIFICATION	NO	O	DATA SOURCE	₹ÇE
	ANALOG DEVICES	!	AD571		1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	1	1	!	!	1	1 1 1
	LDC RAD. TYPE		PART OTY.	BIAS							
	CUM. DOSE(RADS):			ż	N+30K	ž t	N+40K	N+60K	Š	*	N+80K
	PARAMETERS	MEAN	SD	MEAN	SD	MEAN	SD	MEAN	S	MEAN	OS:
	! !		() 		! !] 	1 7	1	1 1 1	1	
	ICC MA	9.742	3.742 .0040 9.720 .0074 7.240 0.366 6.050 0.260	9.720	0074	9.716	9.716 .0091 5 940 0 268	9.702 .0112	.0112	9.693	9.693 .0118
	-IEE MA	9.510	0.313	8.510	0.204	8.370	0.220	8.070	0.293	7.810	0.349
	*										
	REMARKS: CONTINUATION FROM RECORD 5783.	UATION	FROM R	ECORD	5783.	* CO	**CONTINUED ON RECORD 5785.	ON REC	ORD 57	22	
							!		!		

MANUFACTURER TO-BIT A/D CONVERTR IIL 1076 5785 MANUFACTURER PART NUMBER SPECIFICATION DATA SOURCE ANALOG DEVICES AD571 LDC RAD. TYPE PART GTY. BIAS CUM.DGSE(RADS): 0 N+30K N+4G%: N+80K N+100K PARAMETERS MEAN SD MEAN SD MEAN SD MEAN SD		GENERIC PART NUMBER	MBER	FUNCTION	NO		TECH	TECHNOLOGY		RE	REF.NO. RECORD	REC)RD
PART NUMBER SPECIFICATION DAT AD571 PART QTY. BIAS O N+3OK N+4G% N+8OK WEAN SD MEAN SD MEAN SD		571	† ! !	10-BIT	A/D CO	NVERTR				10+	920	. 57	785
AD571 PART QTY. BIAS O N+30K N+4G% N+80K WEAN SD MEAN SD MEAN SD		MANUFACTURER		PART N	UMBER		SPEC	SIFICAT	ION	ρĀ	TA SOL	JRCE	
DART QTY. BIAS O N+30K N+4G; N+80K WEAN SD MEAN SD MEAN SD		ANALOG DEVICES	; 	AD571	} []] [! ! ! !		! !		!		1	!
O N+30K N+4CH; N+80K			E PART	r 0TY.	BIAS					i : !	1	1	!
MEAN SD MEAN SD MEAN SD	- -	CUM.DOSE(RADS):	0	•	N+3	Š	N+4	<u> </u>	80 + Z	Š	ž	<u>8</u>	
	'	PARAMETERS	MEAN	SD	MEAN	SO	MEAN	as	MEAN	SD	MEAN	SE	! _

REMARKS: CONTINUATION FROM RECORD 5784.

(NO DATA) 3.720 0.249 3.447 .4054

30.46 2.27 3.420 0.432 3.413 .4422

27.56 2.06 2.230 0.401 3.278 .4583

(ND DATA) 1.350 0.304 3.153 .5196

22.64 1.97 1.260 0.284 3.189 .8230

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700 111 -111

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OF	POOR	QUALI	ΤY

	GENERIC PART	PART NUMBER	FUNCTION	NO			TECHNOLOGY		A.	Ž	RECORD	
	574		12-B2	A/E	CONVRTE.	111	1 1 1 1 1	} ! ! ! !	<u> </u>	1-10	3050	
	MANUFACTURER] 	PART	WINETE	i ! !	SPE	SPECIFICATION	NOI	¥ D	DATA SOL	SOURCE	
	ADI		AD574JD	Į.					T T	ليا		
	LDC RAD, TYPE		PART OTY.	BIAS	1			 				
	7903N 1.25MEVGAM	/GAM	5	VCC= 15		VDD=-15V,	VLDGIC=5V	5V.	 			
	CUM. DOSE (RADS)	0 ::			30%		75K	150K	¥		600K	
	PARAMETERS	MEAN	SD	MEAN	SD	MEAN	SD		SD	MEAN	SD	
	! ! *	9.97	 	96.6	! ! !	96.6	- - - - -	9.98] 	96.6		
	IKEF(MIN) MA ILOGIC(MAX)MA	18.90		19.44		3.74		3.93		3.47	~ 10	
	ICC(MAX) MA	1.533		1.535		1.535		1.540		1.539		
		5.		, , , , , , , , , , , , , , , , , , ,		5		0.00		2	•	
1	PARAMETERS Remarks: * Me	CONT.	ON ST-CASE	REC.	REC. 3051. PARAMETER VALUE (NOT AVERAGE);	ALUE (1	NOT AVE	RAGE); B	BIAS A	AS ABOVE	Ä.	
<u> </u>	GENERIC	PART NUMBER	FUNCTION	NO	+ + + + +	TECH	TECHNOLOGY	* * * * * *	RE	REF.NO.	RECORD	€ ₩ ₩
	574	; ; ;	12-BIT	ı	A/D CONVRTR.	111	 	1 1 1 1 1 1	 	1-10	3051	
	MANUFACTURER		PART NUMBER	UMBER		SPE	SPECIFICATION	ION	DA	DATA SOL	SOURCE	
	ADI	 	AD574JD	0	i i i i		 	 	! !	; ! ! !	[]] } }	
	LDC RAD. T)	TYPE PART	. OTV .	BIAS		•						
	. S	·		! !	i 	; ; ; ;	! ! ! ! !	 	 	! ! ! ! ! !	1 1 1 1 1	
	CUM. DOSE (RADS)	0		; ; ;	30K	1	75K	150K	¥	9	600K	
	PARAMETERS	MEAN	SD	MEAN	SD	MEAN	SD	MEAN	SD		SD	
	TCONV(MAX) US	-		21.35		FAIL		FAIL	- 	FAIL		
	TDS(MAX) NS	541		554		FAIL		1024 FAIL		1024 FAIL		
	(MAX)	2.13		4.88		FAIL		FAIL		FAIL		
		0.75		1.87 FAIL		FAIL		FAIL FAIL		FAIL		
	ERR					FAIL						
		CONTINUATION	FROM RECORD		3050. P.	PARAMETERS	ERS CON	CONTINUED OF	ON RECORD		3052.	

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GENERIC PART NUMBER	_	FUNCTION		TECHNOLOGY	LOGY	REF.NO. RECORD	O. RE	CORD
574	12-6	12-BIT A/D CGNVRTR	IVRTR.	111	f 	1-10	; !	3052
MANUFACTURER	PART	PART NUMBER		SPECIF	SPECIFICATION	DATA SOURCE	SOURC	щ
ADI	ADS	AD574JD	! ! ! !	! ! ! !] t 1 ; i i i i i i t t	 	; []]	
LDC RAD. TYPE	PART QTY.	, BIAS	:	. !		:	!	
	: 							
CUM. DOSE (RADS):	0	30K	Ā.	75K		150K	600K	×
PARAMETERS	MEAN SD	MEAN	SD	ļ	SD MEAN	SD ME	MEAN	SD
NONLIN LSB	1.045	8.55		FAIL	FAIL	6 1	FAIL	
IOZH(MAX) NA	3.28	4.92		6420	953		571	
IOZL(MAX) NA	.0583	1.347		FAIL	FAIL	u.	FAIL	
VOH(MIN) V	4.48	4.07		FAIL	FAIL		FAIL	
VOL(MAX) MV	17.27	21.1		549	158		428	
IOH(MIN) MA	2.28	0.807		0, 177	0.822	Ö	0.556	
MA	7.05			.0072	0.758	Ö	0.527	
REMARKS: CONTINU	NUATION FROM	RECORD 3051	·	PARAMETERS	CONTINUED	ON RECORD 3053	3023	<u>.</u>

GENERIC PART NUMBER			REF.NO.
574	12-BIT A/D CONVRTR.	III	1-10 3053
MANUFACTURER	PART NUMBER	SPECIFICATION	DATA SOURCE
ADI	AD574JD		; ; ; ; ; ; ; ; ; ; ; ; ; ; ; ; ; ; ;
LDC RAD. TYPE PART QTY. BIAS	PART QTV. BIAS	BIAS	
COURT COURT	•	7017	1000

CUM. DOSE (RADS):	.: (S)	0			30 K	•	75K	t.	150K	9	600K
PARAMETERS		MEAN SD	SD	MEAN SD	MEAN SD	MEAN SD	WEAN SD		SD	MEAN SD	S
IIH(MAX) UA	. ₹	0.891	! ! !	1.403	1 T 1 1	1.793	! ! !		1 1 1 1	2.52	
	₹	14.26		14.86		16.34		21.0		55.4	
	NS	344		329		FAIL		FAIL		FAIL	
THS(MAX) N	NS	32.0		19.9		FAIL		FAIL		FAIL	
END											
DABAMETEDS											
PAKAMELEKO	1				i d						

REF.NO. RECORD

TECHNOLOGY

FUNCTION 12-BIT A/D CONVRTR.

GENERIC PART NUMBER

OR	GINAL	PAGE	5
OF	POOR	QUALI	TY,

MANUFACTURER	CTURER		PART NUMBER	Š	BER		S	SPECIFICATION	CATI	N	_	DATA	DATA SOURCE		
ADI	 	† † - - -	AD574JD	5	 	! ! !	! !	! ! !	1	 	 ! !	JPL	! ! ! !) !	
TDC	RAD. TYPE	PE PA	PART QTY.	_	BIAS										
7909N CO-60	09-00		၉	ı > ı	VCC= 15	, ,	VCC=15V, VDD=-15V, VLDGIC=5V.	۰, در	=315		 	(() (; ; ; ; ; ;	1 1 2	
CUM. DO	CUM.DOSE(RADS):		0		ю	30K		75K							
PARAMETERS	TERS	MEAN	S	ΙΣ.	MEAN	SD	MEAN	OS I	; ;	MEAN	S	E	t L	as	
VREF(MIN)* IREF(MIN)*	VREF(MIN)* VIREF(MIN)* MA	9.97	7 2	; ;	9.98	! 	9.98	80 9	!	:	i ! !	1	1 ! ! !	; ;	
ILDGIC(MA)*	*	22.2 1.720	C D	-	26.8 .725		27.4	4 ñ							
IDD(MAX)*	x)* MA	14.50	0	-	3.40		12.80	Q							
PARAI REMARKS	PARAMETERS CONT. ON REC. 3061. REMARKS: * MEAN = WORST-CASE PARAMETER VALUE (NOT AVG.); BIAS SAME AS ABOVE.	CONT.	ORST-CAS	ASE	REC. 3061 PARAMETER	3061. ETER	VALUE	(NOT	AVG.); BIA	S SA!	ME AS	ABOVE	•	

GENERIC PART NUMBER	NUMBER	FUNCTION	TECHNOLOGY	REF.NO. RECORD	RECORD
574		12-BIT A/D CONVRTR.	11r	1-11	3061
MANUFACTURER	~	PART NUMBER	SPECIFICATION	DATA SOURCE	RCE
ADI	i 	AD574JD	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	 	, f 1 1 1 1 1 1
LDC RAD.	RAD. TYPE PART QTY.	RAD. TYPE PART QTY. BIAS		į	1

CUM. DOSE (RADS):	0			ЗОК	1-	75K				
PARAMETERS		Ω.	MEAN SD	SD	MEAN SD	SD		SD		1
TCONV(MAX)*US 27.7 27.9	27.7		27.9	 	•	! ! ! !	\$ 9 1	1 	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	1 1 1
IDSC(MAX)* NS	336		334							
TDS(MAX)* NS	626		636							
DFFSET (MAX*MV	2.13		1.831							
DFFERR* LSB	0.75		0.75							
AOL OFF* LSB	0.01		0.007							
IOL ERR* LSB	4.87		2.99		FAIL					
REMARKS: CONTIN	DATION FR	OM RE	CORD	3060.	0	TERS	ARAMETERS CONTINUED ON RECORD 3062.	NO O	RECORD	3062.

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574	 	12-BIT	A/D	CONVRTR.	11.	 	† 	-	1-11	3062
MANUFACTURER		PART N	NUMBER		SPEC	SPECIFICATION	NOI	ā	DATA SOL	Source
ADI		AD574JD	0]
LDC RAD. T	TYPE PART	. OTY.	BIAS						1	
									; - - -	1
CUM. DOSE (RADS)): 0			30K		75K				
PARAMETERS	MEAN	S	MEAN	SD	MEAN	SD	MEAN	SD	MEAN	SD
	~] () (FAIL	; ; ;	FAIL	. 	 	 	 	†
IDZH(MAX)* NA	0.75		1510		FAIL					
			2.13		FAIL					
			28.7		88.7					
IOH(MIN)* MA	MA 6.77		0.889 6.59		0.831					
GENERIC PART	NUMBER	FUNCTION	NO		TECF	TECHNOLOGY		~	REF. NO.	RECORD
574	 	12-BIT	A/D CONVRTR	NVRTR.	Ē	1	 		1-11	3063
MANUFACTURER		PART NUMBER	IUMBER		SPEC	SPECIFICATION	ION	۵	ATA	SOURCE
ADI	 	AD574JD	Q	; ; ; ; ;		! ! !	! ! ! ! !	!	 	
LDC RAD. T	TYPE PART	017	BIAS	i 1 1 1		! ! ! !	; ; ; ; ;	- 1 ; 1 1	; ; ; ;] ; ; ;
CUM. DOSE (RADS)):	_		30K		, 75K				
PARAMETERS	MEAN	SD	MEAN	SD	MEAN	SD	MEAN	SD		SD
IIH(MAX)* UA IIL(MAX)* NA TOD(MAX)* NS THS(MAX)* NS	1.382 14.50 351 4.58	1 1 1 1 1	1.828 14.80 329 FAIL	 	2. 14 28.4 FAIL FAIL	1		l d d d d d d d d d d d d d d d d d d d		
END OF										
CCLFLIST										

GENERIC PART NUMBER	WBER	FUNCTION	NO		TEC	TECHNOLOGY		œ	REF.NO. RECORD	RECORD
574	 	12-817	12-BIT A/D CONVRTR.	NVRTR.	111	; ; ; ; ;			1-12	3070
MANUFACTURER		PART NUMBER	UMBER		SPE	SPECIFICATION	NOIL	٥	DATA SOURCE	RCE
ADI	! ! !	AD574JD		; ; ; ; ;	; !	; ; ; ;	• • • • •	; ; ;	JPL	# 1 1 1 1
LDC RAD. TYPE		PART OTY.	BIAS						•	
7905N 1.25MEV**		a	VCC= 15	ov, vo	VCC=15V, VDD=-15V, VLOGIC=5V	VLOGIC)=5V.	 	! ! ! !	; ; ; t
CUM. DOSE(RADS):		•		30K	. •	75K				
PARAMETERS	MEAN	SD	MEAN	So	MEAN	SD	MEAN	SO	MEAN	SD
VREF(MIN) VIREF(MIN) MA	9.97	 	9,99	 	9.99	f 	1 1 1 1	; ; ; ;	 	
ILDGIC(MAX)MA ICC(MIN) MA	21.0		41.8		31.2					
IDD(MAX) MA	13.73		12.60		11.45					
PARAMETERS REMARKS: MEAN=	CONT.	ON -CASE V	REC.	3071. JOT AVO	3.). **j	VOT ST/	IS CONT. ON REC. 3071. MEAN=WORST-CASE VALUE (NOT AVG.). **NOT STATED WHETHER EL OR GAMMA.	ETHER	EL OR G	AMMA.

TURER PART NUMBER SPECIFICATION DATA SOUN ADD. TYPE PART QTY. BIAS RAD. TYPE PART QTY. BIAS RS MEAN SD MEAN SD MEAN SD MEAN (X US 21.2 20.5 FAIL (X) US 21.2 20.5 FAIL (X) NS 280 273 FAIL (X) NS 626 636 FAIL (X) NS 626 636 FAIL (X) NS 626 636 FAIL (X) NS 626 636 FAIL (X) NS 626 636 FAIL (X) NS 626 636 FAIL (X) NS 626 636 FAIL (X) NS 626 636 FAIL (X) NS 626 636 FAIL (X) NS 626 636 FAIL (X) NS 626 636 FAIL (X) NS 626 636 FAIL (X) NS 626 636 FAIL (X) NS 626 636 FAIL (X) NS 626 636 FAIL (X) NS 626 636 FAIL (X) NS 626 636 FAIL (X) NS 626 636 FAIL (X) NS 626 636 FAIL (X) NS 626 636 FAIL (X) NS 626 636 FAIL (X) NS 626 636 FAIL (X) NS 626 636 FAIL (X) NS 626 636 FAIL (X) NS 626 636 FAIL (X) NS 626 636 FAIL (X) NS 626 636 FAIL (X) NS 626 636 FAIL (X) NS 626 636 FAIL (X) NS 626 636 FAIL (X) NS 626 636 FAIL (X) NS 626 636 FAIL (X) NS 626 636 FAIL (X) NS 626 636 FAIL (X) NS 626 636 FAIL (X) NS 626 636 FAIL (X) NS 626 636 FAIL (X) NS 626 636 FAIL (X) NS 626 636 FAIL (X) NS 626 636 FAIL (X) NS 626 636 FAIL (X) NS 626 636 FAIL (X) NS 626 636 FAIL (X) NS 626 636 FAIL (X) NS 626 636 FAIL (X) NS 626 636 FAIL (X) NS 626 636 FAIL (X) NS 626 636 FAIL (X) NS 626 636 FAIL (X) NS 626 636 FAIL (X) NS 626 636 FAIL (X) NS 626 636 FAIL (X) NS 626 636 FAIL (X) NS 626 636 FAIL (X) NS 626 636 FAIL (X) NS 626 636 FAIL (X) NS 626 636 FAIL (X) NS 626 636 FAIL (X) NS 626 636 FAIL (X) NS 626 636 FAIL (X) NS 626 636 FAIL (X) NS 626 636 FAIL (X) NS 626 636 FAIL (X) NS 626 636 FAIL (X) NS 626 636 FAIL (X) NS 626 636 FAIL (X) NS 626 636 FAIL (X) NS 626 636 FAIL (X) NS 626 636 FAIL (X) NS 626 636 FAIL (X) NS 626 636 FAIL (X) NS 626 636 FAIL (X) NS 626 636 FAIL (X) NS 626 636 FAIL (X) NS 626 636 FAIL (X) NS 626 636 FAIL (X) NS 626 636 FAIL (X) NS 626 636 FAIL (X) NS 626 636 FAIL (X) NS 626 636 FAIL (X) NS 626 636 FAIL (X) NS 626 636 FAIL (X) NS 626 636 FAIL (X) NS 626 636 FAIL (X) NS 626 636 FAIL (X) NS 626 636 FAIL (X) NS 626 636 FAIL (X) NS 626 636 FAIL (X) NS 626 636 FAIL (X) NS 626 636 FAIL (X) NS 626 636 FAIL (X) NS 626 636 FAIL (X) NS 626 636 F	GENERIC PART NUMBER	MBER	FUNCTION	NOI		TEC	TECHNOLOGY		RE	F.NO.	REF.NO. RECORD
PART NUMBER SPECIFICATION	574		12-BI	A/D C	DNVRT		f 		+	12	3071
MEAN 21.2 2800 10.000 10.000 10.000 10.000 10.000 10.000 10.000 10.000 10.000 10.000 10.000 10.000 10.000 10.000 10.000 10.000 10.000 10.000 10.000 10.000 10.000 10.000 10.000 10.000 10.000 10.000 10.000 10.000 10.000 10.000 10.000 10.000 10.000 10.000 10.000 10.000 10.000 10.000 10.000 10.000 10.000 10.000 10.000 10.000 10.000 10.000 10.000 10.000 10.000 10.000 10.000 10.000 10.000 10.000 10.000 10.000 10.000 10.000 10.000 10.000 10.000 10.000 10.000 10.000 10.000 10.000 10.000 10.000 10.000 10.000 10.000 10.000 10.000 10.000 10.000 10.000 10.000 10.000 10.000 10.000 10.000 10.000 10.000 10.000 10.000 10.000 10.000 10.000 10.000 10.000 10.000 10.000 10.000 10.000 10.000 10.000 10.000 10.000 10.000 10.000 10.000 10.000 10.000 10.000 10.000 10.000 10.000 10.000 10.000 10.000 10.000 10.000 10.000 10.000 10.000 10.000 10.000 10.000 10.000 10.000 10.000 10.000 10.000 10.000 10.000 10.000 10.000 10.000 10.000 10.000 10.000 10.000 10.000 10.000 10.000 10.000 10.000 10.000 10.000 10.000 10.000 10.000 10.000 10.000 10.000 10.000 10.000 10.000 10.000 10.000 10.000 10.000 10.000 10.000 10.000 10.000 10.000 10.000 10.000 10.000 10.000 10.000 10.000 10.000 10.000 10.000 10.000 10.000 10.000 10.000 10.000 10.000 10.000 10.000 10.000 10.000 10.000 10.000 10.000 10.000 10.000 10.000 10.000 10.000 10.000 10.000 10.000 10.000 10.000 10.000 10.000 10.000 10.000 10.000 10.000 10.000 10.000 10.000 10.000 10.000 10.000 10.000 10.000 10.000 10.000 10.000 10.000 10.000 10.000 10.000 10.000 10.000 10.000 10.000 10.000 10.000 10.000 10.000 10.000 10.000 10.000 10.000 10.000 10.000 10.000 10.000 10.000 10.000 10.000 10.000 10.000 10.000 10.000 10.000 10.000 10.000 10.000 10.000 10.000 10.000 10.000 10.000 10.000 10.000 10.000 10.000 10.000 10.000 10.000 10.000 10.000 10.000 10.000 10.000 10.000 10.000 10.000 10.000 10.000 10.000 10.000 10.000 10.000 10.000 10.000 10.000 10.000 10.000 10.000 10.000 10.000 10.000 10.000 10.000 10.000 10.000 10.000 10.000 10.000 10.000 10.0000 10.000 10.000 10.000 10.000 10.000 10.000 10.000 10.000 10.0000	MANUFACTURER		PART	NUMBER		SPE	CIFICAT	NOI	O.	TA SOU	JRCE
MEAN MEAN 21.2 28.2 28.2 28.0 62.6 62.6 43.07 40.07 41.01	ADI) 	AD574	Q	; ; ; ;		1 1 1 1 1	; ; ; ;	! ! !		; ; ; ; ;
MEAN 21.2 280 626 626 600 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.0	1		0ΤУ.	BIAS	i : :	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	1	1			1 1 1 1 1
MEAN 21.2 21.2 280 626 62.13 0.07 10.07 HUATION		,									
METERS MEAN IV(MAX) US 21.2 (MAX) NS 280 MAX) NS 626 ET(MAX) NV 2.13 ET(MAX) NV 2.13 RE LSB 10.07 OFF LSB 10.07 OFF LSB 10.07 OFF LSB 10.07 OFF LSB 10.07 OFF LSB 10.07 OFF LSB 10.07 OFF LSB 10.07 OFF LSB 10.07 OFF LSB 10.07 OFF LSB 10.07 OFF LSB 10.07 OFF LSB 10.07	CUM.DOSE(RADS):	0	 	1	30K	1	75K	1	1	1	1
V(MAX) US 21.2 (MAX) NS 280 MAX) NS 626 ET(MAX) WV 2.13 RR LSB 0.00 OFF LSB 10.07 OFF LSB 4.12 RKS: CONTINUATION	PARAMETERS	MEAN	SD	MEAN	SO	MEAN	SO	MEAN	SD	MEAN	SD
(MAX) NS 280 MAX) NS 626 ET(MAX)MV 2.13 RR LSB 0.00 OFF LSB 10.07 OFF LSB 4.12 RKS: CONTINUATION	TCONV(MAX) US	21.2	l. 	20.5		FAIL	r .	 			
MAX) NS 626 ET(MAX)MV 2.13 RR LSB 00.00 OFF LSB 10.07 OFF LSB 4.12 RKS: CONTINUATION	TDSC(MAX) NS	280		273		FAIL					
LSB 10.07 RR LSB 10.07 OFF LSB 10.07 ERR LSB 44.12 RKS: CONTINUATION	TDS(MAX) NS	626		636		FAIL					
OFF LSB 10.07 ERR LSB 4.12 RKS: CONTINUATION	OFFERR - SE	2 0		FAIL		FAT					
ERR LSB 4.12 RKS: CONTINUATION		10.07		FAIL		FAIL					
	ERR RKS:	4. 12 JAT I ON	FROM	FAIL RECORD	3070.	FAIL PARAMET	ERS CON	TINUED	ON REC	ORD 30	072.

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OF.	POOR	QUALI	TY

GENERIC PART NUMBER	ART NU	MBER	FUNCTION	NOI		TECH	TECHNOLOGY	≻ _	_	REF.NO.	REF.NO. RECORD
574	! ! ! !		12-B1	12-BIT A/D CONVRTR.	DNVRTR	111) 	i i i i i i	, 	1-12	3072
MANUFACTURER	RER		GART	CART NUMBER		SPEC	SPECIFICATION	TION		DATA SOURCE	JRCE
ADI		1	AD57.4 UD	an:	, ! ! !	! !	 	; ; ; ;	! !)) (t
LDC RA	RAD. TYPE		PART OTY.	BIAS				 	1	; ; ;	; ; ;
CUM.DOSE(RADS):	RADS):	0		•	30K	7.	75K				
PARAMETERS	S	MEAN	S	MEAN	SO	MEAN	S	MEAN	S	MEAN	SD
NIJON	LSB	1.013		FAIL	! ! ! !	FAIL	 	; ; ; ;	1	j (; ! !
IDZH(MAX)	A	0.75		1510		FAIL					
IOZL(MAX)	Ä	0.099		141		FAIL					
VOH(MIN)	>	4.44		2.13		FAIL					
VOL (MAX)	≥	23.5		28.7		88.7					
IOH(MIN)		2.39		0.899		0.885					
IOF(MIN)*	MA	6.77		6.59		0.831					
REMARKS:	CONTIN	CONTINUATION	FROM	RECORD 307	3071.	*PARAME	rers	*PARAMETERS CONTINUED ON RECORD 3073.	NO O	RECORD	3073.

GENERIC PART NUMBER	FUNCTION .	TECHNOLOGY	,	CORD
574	12-BIT A/D CONVRTR.	III	1-12	3073
MANUFACTURER	PART NUMBER	SPECIFICATION	DATA SOURCE	***
ADI	AD574JD			! !
LDC RAD. TYPE PART QTY.	T QTY. BIAS			
			£	11111

CUM. DOSE (RADS): 0	RADS):		•	••	30K	•	75K				
PARAMETERS	۰ د د	MEAN SD	S	MEAN SD	MEAN SD	MEAN	MEAN SD	MEAN	MEAN SD	MEAN SD	S
IIH(MAX) UA	- Yn	1.382		1.828	1.828	1	2.14	1	1 1 1 1 1	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	1
IIL(MAX)	Z	14.50		14.80		28.4					
TDD(MAX)	SZ	351		329		FAIL					
THS (MAX)		4.58		FAIL		FAIL					
OF OF											
PARAMETERS	S										
REMARKS: CONTINUATION FROM RECORD 3072.	CONTINE	NOTTAC	FROM R	ECORD :	3072.						

PAGE A-281	神典的人名英格兰斯斯斯斯斯斯斯斯斯斯斯斯斯斯斯斯斯斯斯斯斯斯斯斯斯斯斯斯斯斯斯斯斯斯斯斯
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GENERIC PART NUMBER: 582	*************

GENERIC	GENERIC PART NUMBER	WBER	FUNCTION	NO		TECH	TECHNOLOGY		A.	REF.NO. RECORD	RECORD
582	1		SAMP/HOLD	SAMP/HOLD AMPLIFIER	LIFIER	BI-FET	E +	 	40	401-2	3210
MANUFACTURER	rurer		PART NUMBER	UMBER		SPEC	SPECIFICATION	NOI	DA	DATA SOURCE	RCE
AD	† 	! ! !	AD582	F F F F F		! ! ! !	 	; ; ; ; ; ;	Z	INSAT PCC 860	098 0
-	RAD. TYPE PART QTY.	E PART	r otv.	BIAS							
ONK CNK	09-00	i G		V+=7.5	V+=7.5V, V-=-7.5V	7.50					
CUM. DOSE	CUM. DOSE (RADS):		•	70	700K	80	800K	ဝ	900K	=	1MEG
PARAMETERS	ERS	MEAN	3	MEAN SD	!	MEANS	SO	MEAN SD	S	MEAN SD	SD
D COS D IBT) W W	1.600	1.600 1.140			0.0	0.0 0.0		0.0 0.0 .06CC .0894	-1.36	-1.36 1.513

REMARKS:

GENERIC PART NUMBER	T NUMBER	FUNCTION	2		LECHIN	TECHNOLOGY		χ Ή	KET.NU. KECUKU	אם בי אור מאו
582		SAMPLE/HOLD	/HOLD		UFET			₽	1001	5000
MANUFACTURER	•	PART NUMBER	JMBER		SPEC	SPECIFICATION	NOI	O	DATA SOURCE	RCE
ANALOG DEVICES	CES	AD582	} ; ; ; ;	# ! ! !	; ; ;	 	i { { { ! !	TRW	TRW	i i i i
	RAD. TYPE PAR	PART OTY.	BIAS	:						
8101 C0-60	0	4	V+= 12V	, V-=-	12V. 8k	HZ SQ	WAVE (V+=12V, V-=-12V, 8KHZ SQ WAVE (O-+5V) TO SAMPLE	TO SAM	PLE *
CUM.DOSE(RADS):	. (Sa	0		30K	¥	100K	ñ	300K	=	1MEG
PARAMETERS	MEAN	SD	MEAN	SO	MEAN	S	MEAN	S	MEAN	SD
ı	DB 102.4	•	102.1	0.26	100.9	0.62	98.45	•	97.15	0.58
AVOL 1KHZ	DB 43.15	0.48	42.68	0.21	41.28	0.39	38.62	0.68	37.33	0.89
			28.55	0.54	27.05	0.45	22.95		21.00	1.7
105			-84.7	76.91	-43.6	62.77	,	•	-65.9	96.66
18	UA 1.508	0.196	1.593	0.177	1.525	0.173	1.420	0.163	1.628	.628 0.156
SO ₂	MV 0.602		-0.45	1.622	-0.05	0.891	0.192	2.238	-0.38	2, 135
IDROOP	PA -34.6	32.68	-22.1	28.95	4.35 3	32.41	-1.05		-80.8	
CACAMITE	001		6			1				

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GENERIC PART NUMBER	Œ. i	NOI	TECHNOLOGY		REF.NO. RECORD	RECORD
590	TEMP. TR	TEMP, TRANSDUCERS	BIPOLAR	† 	1015	5140
MANUFACTURER	PART	PART NUMBER	SPECIFICATION	NOI	DATA SOURCE	JRCE
ANALOG DEVICES	AD590JH	王 王		1 1 1 1 1 1 1	TRW	
LDC RAD. TYPI	RAD. TYPE FART OTY.	CC				
09-00	10	VGD=+10V.	 			
CUM. DOSE (RADS):	0	. 73MEG	1.OMEG	1.5MEG	. 60	1.8MEG
PARAMETERS	MEAN SD	MEAN SD		MEAN SD	MEAN	MEAN SD
ERROR (DEGREES CENTIGRADE)		2.00 0.460	2.42 0.515	2.97 0.544	,	3.60 0.589

FMADKS

GENERIC PART NUMBER	PART NUN	BER	FUNCTION	NO		TEC	TECHNOLOGY		æ	REF.NO. RECORD	RECOR
6N134		! ! !	OPTOCOUP	OPTOCOUPLER	! ! ! !	BIP	BIPOLAR		77	24-43	3840
MANUFACTURER	URER		PART NUMBER	UMBER		SPE	SPECIFICATION	100	۵	DATA SOURCE	3CE
HEWLETT PACKARD	PACKARD		6N134		! ! ! !	E COM	COMMERCIAL	3	. B	ROCKWELL	
	RAD. TYPE PART OTY.	PAR	T 0TY.	BIAS							
8012 CC	09-00	! ! !	5	VDD=5V		1			} ! ! !		
CUM. DOSE (RADS):	(RADS):		C		30K	Ŧ	100K	ĕ	300K		
PARAMETERS	2S	MEAN	SD	MEAN	i	MEAN	1	MEAN	SD	MEAN	SD
D I/0(.25)MA D I/0(2.0)MA D I/0(5.0)MA	25 MA .0) MA .0) MA			064	.064 0.073 .609 0.459	0.005	0.005 0.001 0.122 0.120		0.010 0.005 0.611 0.534	1 1 1 1 1	

REMARKS:

GENERIC PART NUMBER		FUNCTION	2		TECHNOLOGY		REF.NO.		RECORD	
6N134		UAL-CF	DUAL-CH OPTOCOUPLER	PLER	BIPOLAR	; i i i i	1029	!	5310	
MANUFACTURER	.	PART NUMBER	MBER		SPECIFICATION	NOI	DATA	SOURCE	₹CE	
HEWLETT-PACKARD	9	6N134			1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		TRW		1 1 1 1 1 1	
LDC RAD. TYPE	PART OTY.	0TY.	BIAS							
7815 CD-60	1	10	PINS: 15	@5V.;	15@5V.; 14,12 VIA 5000HMS TD 5V.;	DODHIMS 1		2.6.	2.6.10@GND	
CUM.DOSE(RADS):	0	•	300K		500K	750K				
PARAMETERS	ľ	SD	i i	SD	1	i		MEAN	SO	
VF V CA	1.511 0 0.5 35/ 9 2	0.003	1.513 0. 0.509 0.	0.005	1.515 0.005 0.5 0	1.515 (0,005	! ! !	! ! !	
N N N N N N N N N N N N N N N N N N N		9.923 9.004 0.945		3.001 3.629 0.878	0 10 10		5.423 5.423 0.912			
REMARKS:	· · · · · · · · · · · · · · · · · · ·			1 9 9		,		,		
GENERIC PART NUMBER	BER *	FUNCTION	Z		TECHNOLOGY		REF.NO.	N. ON	RECORD	.
6504		(4K) ½	(1) RAM	 	CMDS	F 			3920	
MANUFACTURER	(t -	PER NUMBER	MBER		SPECIFICATION	ION	DATA	DATA SOURCE	SCE	
HARRIS	I	H\$&504RH	±.	 - - -			1111	LITTON GC		
LDC RAD. TYPE	PART (\$7%.		BIAS) 			1	1		
	က		5.5 V					; 		

1.230 3.180 10.23 -3.77 MEAN S 0 120.0 1.230 3.470 10.23 -3.77 MEAN CUM. DOSE (RADS): PARAMETERS ADD VIL ADD VIH IOL .

100.0

So

MEAN

SD

MEAN

SD

MEAN

S 50K

REMARKS:

REMARKS:

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	ENERIC PART NUMBER	FUNCTION	TECHNOLOGY	REF.NO. RECORD
	6504	(4K) X (1) RAM		23
	MANUFACTURER	PART NUMBER	SPECIFICATION	DATA SOURCE
	HARRIS	HS6504RH		LITTON GC
	RAD. TYPE	OTY. B		
	UNK. CD-60 3	> 5		
Y	CUM.DOSE(RADS): O	SOK	1 1 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	
		MEAN	SD MEAN S	X i
	ACC NS 133.0 DATA RET V 2.760 ADD IL V 1.150 ADD IH V 3.000 IOL 4 MA 9.700 IOH 4 MA -3.95	107.0 1.720 1.100 2.700 10.23 -3.65		
	REMARKS:			
****	* 0	**************************************	**************************************	**************************************
	6504	(4K) X (1) RAM	CMDS	
	MANUFACTURER	PART NUMBER	SPECIFICATION	DATA SOURCE
	HARRIS	HS6504RH		LITTON GC
	RAD. TYPE	PART OTY. BIAS		
	UNK CO-60	3 4.5 V		
	CUM.DOSE(RADS): 0	50K		\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$
	ETERS	SD MEAN SD	MEAN SD MEAN SD	D MEAN SD
	ACC NS 154.0	· 		
	ADD VIL V 1.120 ADD VIH V 2.580 IOL .4 MA 8.820	1.080 2.380 10.03		
	. 4 MA			

PAGE A-284 GENERIC PART NUMBER: ... 6504

传统经验检查经验检查检查证	PAGE A-285
特种 预排放 计转换 计设计 计分类 计分类 计分类 计分类 计分类 计分类 计分类 计分类 计分类 计分	

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·************************************	WBER: 6504
*****	GENERIC PART NUMBER: 6504

REMARKS:

GENER	GENERIC PART NUMBER	MBER	FUNCTION	NOI		TECH	TECHNOLOGY		~	NO.	RECORD
6504		 	(4K) X	(4K) X (1) RAM	Σ.	CMOS		; 	- Ci	23	3950
MANUFAC	MANUFACTURER		PART !	PART NUMBER		SPE	SPECIFICATION	TION	۵	DATA SOURCE	SCE
HARRIS			HS6504RH	#RH	 - - -	i i !		; ; ; ;	! -	LITTON GC	
LDC	RAD. TYPE		PART OTY.	BIAS							
C K	09-00	; ! ! !	្រ	5.5 <	; ; ;	; ; ; ; ;	: : :	! ! !			
CUM. DC	CUM.DOSE(RADS):		0		20K						
PARAMETERS	TERS	MEAN	SD	MEAN	SO	MEAN	SO	MEAN	SO	MEAN	SD
	NS NS	123.0	 	110.0	† E 1 †	t † † †	 	1	i 	1 	! ! !
ADD VIH		3.240		2.910							
	MA	-3.88		-3.77							

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6504 Manufacturer	(4K) X			,					NEL TIME NECOND
MANUFACTURER		(4K) X (1) RAM	 	CMOS	! ! !	! 	23	23	0966
	PART	PART NUMBER		SPEC	SPECIFICATION	ION	O	DATA SOURCE	RCE
HARRIS	HS6504RH	4RH	! ! !	1			3,	LITTON GC	0
LDC RAD. TYPE PART OTY.	ART OTY.	BIAS							
UNK. CO-60	5	5 V	! !	: : : :	[1 1 1 1 1			
CUM. DOSE(RADS):	0	20K	,						
PARAMETERS MEAN	OS N	MEAN	SD	MEAN	SD	MEAN	SD	MEAN	SD
NS	0	121.0		1 1 1 1] 	! !	t 	1	
>>	2.800	2.270							
>	80	2.580							
IOL .4 MA 9.0 IOH .4 MA -3.	.070 3.70	9.540		٠					

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GENER1	GENERIC PART NUMBER		FUNCTION	NO		TECHN	TECHNOLOGY		₹ i	REF.NO.	REF.NO. RECORD
6504	 	i 	(4K) X	(4K) X (1) RAM	AM	CMDS			23	E	3970
MANUFA	MANUFACTURER		PART NUMBER	UMBER		SPEC	SPECIFICATION	LON	ã	DATA SOURCE	JRCE
HARRIS		!	HS6504RH	HZ.	 	!	 	 	 	LITTON GC	0
TDC	RAD. TYPE		PART OTY.	BIAS							
C K	09-00	 	i i	4.57	 	1 1 1 1 1 1					
CUM. DC	CUM.DOSE(RADS):	0			20K				1		
PARAMETERS		MEAN	SD	MEAN	SD	MEAN	SD	MEAN	SO	MEAN	SD
ACC	SN.	160.0	† ! ! !	137.0	 	 - - - - -	! ! !) - - - -	i r i	
ADD V	VIL	1.210		1.180							
10L V	> X	2.430 8.090		8.960							
	MA	-3.49		-3.31							
REMARKS	(S:										

GENERIC PART NUMBER		FUNCTION	NO		TECH	TECHNOLOGY		2	REF.NO. RECORD	RECOR
6508	! ! !	1024X1 RAM	RAM	! !	CMDS	1	; ; ; ; ;	- .	-36	3820
MANUFACTURER		PART NUMBER	UMBER		SPEC	SPECIFICATION	LION	ا م	DATA SOURCE	URCE
INL	•	IM6508		; ! ! !	; ; ;	† - - - - -	; ; ; ; ;	יי פייי	ÚP.L	
LDC RAD, TYPE	E PART	PART OTY.	8							
NONE CO-60	1	: 	VCC=5V.		; } ! ! !	t 	; ; ; ; ; ;	; 1 [1 1	i 	
CUM. DOSE (RADS):			•	¥.	-	 X	Ö	3.0K	, , ,	; ; ;
PARAMETERS		SO	MEAN	S	MEAN	SD	MEAN	SD	MEAN	SD
ICC (MAX) UA	0.045 PASS	! ! ! !	0.024 PASS	 	2100 PASS		11000 FAIL			
CAI DAT	DASS		PASS		PASS		FAIL			

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GENERIC PART NUMBER	NUMBER	ш	NOI		TECH	FECHNOLOGY		~	EF.NO.	REF.NO. RECORD
6508	 	1024X1 R	1024X1 RAM	 	CMOS		; ; ; ; ;	-	-32	3830
MANUFACTURER		PART	PART NUMBER		SPEC	SPECIFICATION	ION	۵	DATA SOURCE	JRCE
INL	 	IMESOB	 			 	 	5	JPL	
	YPE P	RAD. TYPE PART OTY.	BIAS	,				-		
7529 CD-60	! ! !		VCC=5V		; f 1 I I	1 1 5 1 1	f f l f t	 	 	
CUM.DOSE(RADS):	3):	0	Ж	æ	+	1.0K	e l	3.0K		
PARAMETERS	MEAN		MEAN	SD	MEAN	SD	MEAN	SD	MEAN	OS
ICC (MAX) UA MARCH		20 20 55 55	.0036 PASS		480 PASS	 	27000 FAIL FAIL			
))		1			

REMARKS: MEAN = WORST-CASE PARAMETER VALUE (NOT AVERAGE).

TURER PART NUMBER HM9-6508-2 RAD. TYPE PART 0TY. BIAS CO-60 12 +5V, DIAGONAL SE(RADS): 0 10.0K FERS MEAN SD MEAN SD 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS		
TURER PART NU RAD. TYPE PART OTY. CD-60 12 SE(RADS): 0 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 1	25-97	3850
RAD. TYPE PART QTY. CD-60 12 SE(RADS): 0 TERS MEAN SD 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS	•	DATA SOURCE
RAD. TYPE PART GTY. CO-60 12 SE(RADS): 0 TERS MEAN SD 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS	AEROJET	
CD-60 12 SE(RADS): 0 FERS MEAN SD 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12		
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12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS 12PAS		! ! ! !
12PAS 12PAS 12PAS 12PAS 12PAS 12PAS		
12PAS 12PAS		
WAKPAT 12PAS 12PAS 12PAS		
12PAS 12PAS		

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6508		1024X1 RAM	RAM		CMDS	S	i i i i	N	25-96	3880
MANUFACTURER		PART NUMBER	UMBER		SPEC	SPECIFICATION	TION	-	DATA SOURCE	JRCE
HARRIS	i i i	HM1-6508-2	08-2	; ; ;		i ! ! !	; ; ; ; ;		AEROJET	
LDC RAD. TYPE		PART OTY.	BIAS							
7841 C060	! ! !	7	+5V	• • • •	 	i 	 	[] []		! ! !
CUM. DOSE (RADS):	0	•	:	¥.						
PARAMETERS	MEAN	SD	MEAN	SD	MEAN	SD	MEAN	SD	MEAN	SD
	PASS	! ! !	PASS	! ! !	 	 	! ! !	} ! ! !	! ! !	! ! !
CH1	PASS		PASS							
/OH2	PASS		PASS							
/OL1	PASS		PASS							
/0L2	PASS		PASS			•				
IDOSE	PASS		PASS							
747	DACC		DACC							

GEN	GENERIC PART NUMBER	PART	NUMBE		FUNCTION	NO		TEC	TECHNOLOGY	} 5		REF.NO. RECORD	RECORD
6551] 		!	256-W0	RDX4-B	256-WORDX4-BIT RAM	CMDS	S	! ! ! ! !	, , , , 	25-98	3860
MAN	MANUFACTURER	URER		:	PART NUMBER	UMBER		SPE	SPECIFICATION	VTION	J	DATA SOURCE	JRCE
HAR	HARRIS	[; ; ;	 !	HM1-6551-2	51-2	 		! ! !	; ; ; ; ; ;	†	AEROJET	! ! ! ! !
LDC		RAD. TYPE	YPE	PART	PART OTY.	BIAS							
* (2)		09-00	! !	7	† 	+5V.	+5V, DIAGONAL PATTERN	L PATT	E.N.	; : : : :	1	; ! ! !	
Wind C	CUM.DOSE(RADS):	(RADS		0			**						
PAR	PARAMETERS	RS	ï	MEAN	SD	MEAN	SO	MEAN	OS.	MEAN	SD	MEAN	as
** 11	 * •) 	. 2	PASS	! ! ! !	7PASS	!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!	} 		i i i i	! ! !	<u>.</u>	
VOH2	- 0		: ⊭	TPASS		7PASS							
VOL 1	+		7.	7PASS		7PASS							
VOL	~ !		7.	ASS		7PASS							
IDOSE	SE		7.	7PASS		7PASS							
AER.	REMARKS: *2 7734D; 5 7807	*2.7	734D;	52	807.	**REMA	RKS AND	PARAM	ETERS	**REMARKS AND PARAMETERS CONTINUED ON RECORD 3861.	NO O	RECORD	3861.

6551	
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GENERIC PART NUMBER FUNCTION	FUNCTION	TECHNOLOGY	REF.NO. RECORD	RECORD	
6551	256-WORDX4-BIT RAM	CMOS	25-98	3861	
MANUFACTURER	PART NUMBER	SPECIFICATION	DATA SOURCE	URCE	
HARRIS	HM1-6551-2				

BIAS PART OTY. RAD. TYPE CDC

CUM. DOSE (RADS):	Ŭ	_		*						
	•		1	1111111111		1511111111	1111			111111
PARAMETERS	MEAN SD	SD	MEAN SD	SD	MEAN SD	SD	MEAN SD	SD	MEAN SD	SD
IDD *	7PASS	7PASS	7PASS	7PASS	[]]]	f f f f f f f f f f f f f f f f f f f	i ! !	1 1 1 1 1 1	! ! ! !	
HE.	7PASS		7PASS							
FUNCTIONALITY										
(1)WAKPAT	7PASS		7PASS							
(2)GALPAT	7PASS		7PASS							

REMARKS: *CONT. FROM REC. 3860. **IRRADIATED UNTIL IT=2.4MA (DOSE=3.6-3.8 KRAD)

GENERIC PART NUMBER	MBER	FUNCTION	NO		TEC	TECHNOLOGY	>	_	REF.NO. RECORD	RECOR
6551	1	256-WD	256-WDRDX4-BIT RAM	T RAM	CMOS	SI	1 1: 1		25-99	3870
MANUFACTURER		PART NUMBER	IUMBER		SPE	SPECIFICATION	TION	_	DATA SOURCE	URCE
HARRIS	!	HM9-6551-2	51-2		;	! ! !	1 	. 1	AEROJET	
LDC RAD. TYPE PART GTY.	E PART	0TY.	BIAS							
725-4 C0-60	S.	 	+5V, A	ND WIT	1 A D	AGONAL	+5V, AND WITH A DIAGONAL PATTERN STORED IN MATRIX.	N STO	ZED IN	MATRIX
CUM.DOSE(RADS):		_		**						i
PARAMETERS	MEAN	SD	MEAN	SD	MEAN	SD	MEAN	SD	MEAN	SD
* II	SPASS	i 	5PASS						! ! ! !	
VOH 2	SPASS		SPASS							
VOL 1	SPASS		SPASS							
VOL2	SPASS		5PASS							
IDOSE	SPASS		5PAS3							
TAC	SPASS		SPASS							
DEMANYS. *CONTA	CTC ISC CPLEATERS	010	100	70 a**	+) YO	*** OF IL ILLYDOCED INTIL ILE "MY)		C = 1	~

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GENERIC PART NUMBER	Ľ.	NOI		TECHN	TECHNOLOGY		RE	F. NO.	REF.NO. RECORD
6551	256-W	256-WORDX4-BIT RAM	RAM	CMDS] i.	3871
MANUFACTURER	PART	PART NUMBER		SPEC	SPECIFICATION	NOI	DA	DATA SOURCE	JRCE
HARRIS	9-6WH	HM9-655↑-2	[i i i					
LDC RAD. TYPE PART QTY.	PART QTY.	BIAS							
		1							
CUM.DOSE(RADS):	0	# ! # !	; ;	. I		1	;	i	
PARAMETERS	MEAN SD	MEAN	Đ.	MEAN	SD	MEAN	SD	MEAN	SD
! !	SPASS	SPASS	,) ' 				
IDD1,2,3,4 5F	PASS	SPASS							
	5PASS .	SPASS							
	PASS	SPASS							
	SPASS	SPASS							
FUNCTIONALITY SE	5PASS	SPASS							

GENERIC	GENERIC PART NUMBER	BER	FUNCTION	NO		TECH	TECHNOLOGY		ž	REF.NO. RECORD	RECORD
6551	1 1 1 1 1 1	- - 	256X4 RAM	RAM	 	CMDS	1	 	86	: : : : : : :	3890
MANUFACTURER	rurer		PART NUMBER	UMBER		SPEC	SPECIFICATION	NOI	70	DATA SOURCE	IRCE
HARRIS	• • • • • • • • • • • • • • • • • • •	 	HS6551-RH	-RH	! ! !	COM	COMMERCIAL	! ! !	; 5 !	JPL	
רט	RAD. TYPE		PART OTY.	BIAS							
81198	09-00	! ! ! !	9	VCC=5.5V	.5V	, 	; []]] !	 	; ; ; ;		
CUM.DOSE	CUM.DOSE(RADS):	Ü			20K	4	40 X		80K	•	120K
PARAMETERS	ERS	MEAN	SD	MEAN	S	MEAN	SD	MEAN	SD	MEAN	SD
HLA	>	2.04	1	1.69	! ! !	1.41	; ; ; ;	.924	! ! !	FAIL	
MLQ F	S S			-20		-26 -2 83		-30		FAIL -2 33	
1001	Æ	. 60		7.37		17.6		25.8		41.2	. ~

REMARKS: *CONTINUATION FROM REC. 3870. **SEE REMARKS ON REC. 3870.

REMARKS: PARAMETER DATA = WORST-CASE VALUES.

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PAGE A-29+	TECHNOLOGY REF NO DECORDS		SPECIFICATION DATA COURSE	!			8K 10K 12K	MEAN	FAIL FAIL
***************************************	FUNCTION	1 1 2 5 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	UMBER	HS6551 COMME		VCC=5.5V	0 4K 8±	SD MEAN SD MEAN	1.31
我兴兴安全的,我们就是我们的,我们就是我们的,我们就会会会会会会会会会会会会会会会会会会会会会会会会会会会会会会会会会会会会	GENERIC PART NUMBER	6551	MANUFACTURER	HARRIS	LDC RAD. TYPE PART QTY.		ADS):	METERS MEAN	DTW * NS 1.46

REMARKS: * MEAN_WORST-CASE (NOT AVG.). **VALIDITY QUESTIONABLE: VALUES HIGH.

"H971 ANICO"	***************************************				GINA POOF	-	AG.S UALI	S TY	
***	REF.NO. RECORD	96 3910	DATA SOURCE	JPL			14 44	MEAN SD	FAIL
*	TECHNOLOGY	CMOS	SPECIFICATION	COMMERCIAL			8K 12K		1. 126 FAIL FAIL FAIL FAIL
*****	FUNCTION	256X4 RAM	PART NUMBER	HM6551	NT OTY. BIAS	6 VCC=5.5V	0 4K	SD MEAN SD	1.383 -4.0 1885
***************************************	GENERIC PART NUMBER		MANUFACTURER	HARRIS	RAD. TYPE PAR	8048 C0-60	ADS):	PARAMETERS MEAN	DTW NS 1.661 ICC UA .028
*************************************				•					

REMARKS: PARAMETER DATA = WORST CASE VALUES.

	1000 DAGE - B 300 D C C C - B 300 D C C C C C C C C C C C C C C C C C C	C. PART NUMBER FUNCTION C. PART NUMBER FUNCTION ACTURER HM9-6611AB2208 SPECIFICATION MOTOROLA SPECIFICATION MOTOROLA SPECIFICATION MOTOROLA MOTOROLA SPECIFICATION MOTOROLA SPECIFICATION SPECIFICATION SPECIFICATION SPECIFICATION SPECIFICATION SPECIFICATION SPECIFICATION MOTOROLA SPECIFICATION SPECIFICATION SPECIFICATION SPECIFICATION SPECIFICATION SPECIFICATION SPECIFICATION SPECIFICATION SPECIFICATION SPECIFICATION SPECIFICATION SPECIFICATION SPECIFICATION SPECIFICATION SPECIFICATION SPECIFICATION SPECIFICATION SPECIFICATION SPECIFICATION SPECIFICATION SPECIFICATION SPECIFICATION SPECIFICATION SPECIFICATION SPECIFICATION SPECIFICATION SPECIFICATION SPECIFICATION SPECIFICATION SPECIFICATION SPECIFICATION SPECIFICATION SPECIFICATION SPECIFICATION SPECIFICATION SPECIFICATION SPECIFICATION SPECIFICATION SPECIFICATION SPECIFICATION SPECIFICATION SPECIFICATION SPECIFICATION SPECIFICATION SPECIFICATION SPECIFICATION SPECIFICATION SPECIFICATION SPECIFICATION SPECIFICATION SPECIFICATION SPECIFICATION SPECIFICATION SPECIFICATION SPECIFICATION SPECIFICATION SPECIFICATION SPECIFICATION SPECIFICATION SPECIFICATION SPECIFICATION SPECIFICATION SPECIFICATION SPECIFICATION SPECIFICATION SPECIFICATION SPECIFICATION SPECIFICATION SPECIFICATION SPECIFICATION SPECIFICATION SPECIFICATION SPECIFICATION SPECIFICATION SPECIFICATION SPECIFICATION SPECIFICATION SPECIFICATION SPECIFICATION SPECIFICATION SPECIFICATION SPECIFICATION SPECIFICATION SPECIFICATION SPECIFICATION SPECIFICATION SPECIFICATION SPECIFICATION SPECIFICATION SPECIFICATION SPECIFICATION SPECIFICATION SPECIFICATION SPECIFICATION SPECIFICATION SPECIFICATION SPECIFICATION SPECIFICATION SPECIFICATION SPECIFICATION SPECIFICATION SPECIFICATION SPECIFICATION SPECIFICATION SPECIFICATION SPECIFICATION SPECIFICATION SPECIFICATION SPECIFICATION SPECIFICATION SPECIFICATION SPECIFICATION SPECIFICATION SPECIFICATION SPECIFICATION SPECIFICATION SPECIFI	REMARKS: "THIS PARAMETER IS ACTUALLY DUTN/D(RADIATION). REF. NO. RECORD TECHNOLOGY 24-28 4 190 GENERIC PART NUMBER LM723 NATIONAL LDC RAD. TYPE PART GTV. BIAS CUM DOSE(RADS): 0 MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN SD MEAN
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GENERIC PART NUMBER	FUNCTION	TECHNOLOGY	
723	VOI TAGE DEC		KEF.NO. RECORD
	מר ארם	BIPOLAR	26 4200
MANUFACTURER	PART NUMBER	SPECIFICATION	TOURS ATAR
UNKNOWN.	723HG		IRT
LDC RAD, TYPE PART OTY.	80		
UNK. CD-60	10 V+=VC=15V		
CUM.DOSE(RADS):	W.C. 0		
TERS	MEAN SD	MEAN SD MEAN SD	MEAN SD
V(001) V 5.169	5.169 .0311 5 138 0040		

REMARKS:

GENERIC PART NUMBER	ш.	TECHNOLOGY	Q	<u> </u>	DEF NO
723	VOLT. REGULATOR	BIPOLAR	24	24-29	4210
MANUFACTURER	PART NUMBER	SPECIFICATION		1	
FAIRCHILD	LM723J	COMMERCIAL		DATA SUURCE	KCE
LDC RAD, TYF. PART OTY.	PART OTY. BIAS				
8007 CD-60	8 V+=VC=20V	! ! ! ! ! ! ! ! ! ! ! ! ! ! ! ! ! ! !			!
ADS):	30K	100K	300K		
PAKAMELEKS MEAN	SD	MEAN SD MEAN	EAN SD	MEAN	SD
D L/RG20-40V% D REF/V V	0.877 0.343 029 0.009 0.002 0.001	0.932 0.28300 016 0.01100	093 0.148] 	I

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GENERIC PART NUMBER	_	ION		TEC	TECHNOLOGY		2	F.NO.	REF.NO. RECORD
723	VOLT.	VOLT, REGULATOR	Œ	BIPC	BIPOLAR	: : : :	72	24-30	4220
MANUFACTURER	PART	PART NUMBER		SPEC	SPECIFICATION	ION	6	DATA SOURCE	RCE
FAIRCHILD	LM723H	 		COM	COMMERCIAL) M	ROCKWELL	
LDC RAD. TYPE PART QTY.	ART OTY.	BIAS							
BOO8A C0-60	. 60	V+=VC=20V	0			i i			i ! ! !
CUM. DOSE(RADS):	0	30K	¥	. 2	100K	ř	300K		
ARAMETERS MEAN	OS	MEAN	SD	MEAN	SD	MEAN	So	MEAN	SD
J L/RG1-50MA% 0L/RG20-40V % 0 REF/V V	# T 1 1 1 1	0.028 0.027 0.000 0.001	0.044	-1.17 0.417 0.027 0.021 000 0.032	1.17 0.417	0.038 0.003	018 0.034 0.038 0.024 0.003 0.003	1	

REMARKS:

GENERIC PART NUMBER	14. 1	LION	TECHNOLDGY		REF, NO. RECURD	CURD
723	VOLT RE	VOLT REGULATOR	BIPOLAR	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	24-31	4230
MANUFACTURER	PART	PART NUMBER	SPECIFICATION	NOI	DATA SOURCE	m
FAIRCHILD	LM723HM	3HM	COMMERCIAL		ROCKWELL	
LDC RAD, TYPE	E PART OTY.	ш				
		V+=VC=20V		; 		!
CUM. DOSE(RADS):	0	30K	100 1	300K		
PARAMETERS	MEAN SD	1	MEAN SD	MEAN SD	MEAN	So
D L/RG1-50MA% D L/RG20-40V% D REF/V V		0.003 0.062 005 0.009 0.002 0.001	-1.09 0.216 0.002 0.010 0.003 0.001	048 0.051 0.008 0.010 0.007 0.001	-0-] [

723
NUMBER:
PART
NERIC

GENERIC PART NUMBER	T NUME	SER	FUNCTION	NO		TECH	TECHNOLOGY		X	F.NO.	REF.NO. RECORD	
723			VOLTAG	VOLTAGE REGULATOR	ATOR	BIPOLAR	LAR		6		4310	
MANUFACTURER	α		PART NUMBER	UMBER		SPEC	SPECIFICATION	NO	DA	DATA SOUPCE	PCE	
FAIRCHILD	; ; ; ; ;	! !	LM723	M723 (10201BIA)	BIA)	· · · · · · · · · · · · · · · · · · ·	i i i i	! ! ! !	Q	MOTOROLA	f f 1	
LDC RAD.	RAD. TYPE		PART OTY.	BIAS	; ;	:						
7804 C0-60	0		4	VCC=21.5	r.	j .	; } } ! !		1 1 1 1 1	/ ! ! !	 	
CUM.DOSE(RADS):	(Sa	0		Ŕύ	50K	1 1 1 1	!	! !	1	ļ		
PARAMETERS	· æ :	MEAN	SD	MEAN	SD	MEAN	SD	MEAN	SD	MEAN	SD	
VO RL=INF V VO RL=1.2K V VREF		12.01	.0274	12.01	.0285	! ! !	; ; ;	 	í ! ! !	 	! ! !	
STDBY I MA V9 RL=1.2K V V6 RL=1.2K V		1.968 13.33 12.02	.0336 .0267	1.954 13.34 12.02	.0352 .0283							

REMARKS: PACKAGE IS "TO" STYLE CAN.

GENERI	GENERIC PART NUMBER	MBER	FUNCTION	NO		TECH	TECHNOLOGY		RE	REF.NO. RECORD	RECOR
723	r P		VOLTAG	VOLTAGE REGULATOR	ATOR	BIP	BIPOLAR		<u> </u>	1012	5110
MANUFA	MANUFACTURER		PART NUMBER	UMBER		SPE	SPECIFICATION	NOI	DA	DATA SOURCE	RCE
FAIRCHILD	ILLD) ! !	UA723] 	i 	 	:	TRE	RW	! ! ! !
LDC	RAD. TYPE		PART OTY.	BIAS							
9062	09-00	† ! ! !	i io	_=\\ \	20v. v	-=GND	VO=CL=	V+=VC=20V, V-=GND, VO=CL=CS TO GND VIA 5.1K.	ND VIA	5. ‡] ! ! !
CUM. DO	CUM.DOSE(RADS):				50K	¥	100K	ĕ	300K	-	1MEG
PARAMETERS	TERS	MEAN	SD		SD	MEAN	SD	MEAN		MEAN	N SD
1	REG MV	7.271	7.271 0.014	7.272 0.014	0.014		7.273 0.014		7.275 0.014		7.279 0.015 4.06 1.27
LINE R	EG MV	7.38	69.0		0.67		0.54		0.62		9.36 0.61

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GENERI	GENERIC PART NUMBER	ABER	FUNCTION	NO		TECH	TECHNOLOGY		2	REF.NO. RECORD	RECORD
725			OP AMP			BIPO	BIPOLAR		86	: : : : : : : : : :	4300
MANUFA	MANUFACTURER		PART NUMBER	UMBER		SPEC	SPECIFICATION	ION	ò	DATA SOURCE	RCE
NS		 	LM725AH		\$ 		† 	; 	3	WESTINGHOUSE	OUSE
LDC	RAD. TYPE	PART	PART OTY.	BIAS							
923	09-00] 	VS=+/-15V	-15V	1 6 1 1 1	i 	; ; ; ;	! ! ! !	! ! ! ! !	1 1 1 1
CUM.DO	CUM.DOSE(RADS):	0		4(400K						j
PARAMETERS	TERS	MEAN	SD	MEAN	SD	MEAN	SD	MEAN	SD	MEAN	SD
VIO		-1.43 .2499	. 2499	-1.27	.2776			! - -	 - -		T - - - -
118		16.40 .9618	9618	13.50	1.225						
F1 F2	KHZ	1.022	52.15	317.0	317.0 39.78						
)	!										

GENERIC PART NUMBER	MBER	FUNCTION	NO		TECH	TECHNOLOGY	_	2	REF.NO. RECORD	RECOR
734		VOLTAGE	VOLTAGE COMPARATOR	RATOR	BIP	BIPOLAR	! ! ! !	25	25-100	4290
MANUFACTURER		PART N	PART NUMBER		SPE	SPECIFICATION	110N	DA	DATA SOURCE	JRCE
FSC	 	UA734DM	E		i ! !	[} { f	; ! ! !	AE	AEROJET	! ! ! !
-		PART OTY.	BIAS							
7639 CD-60			NO IN	ORMAT	NO INFORMATION FURNISHED	VISHED	 	 	i ; ; ;	; ; ;
CUM. DOSE(RADS):	0		•	Ж		52K	=	170K		360K
PARAMETERS	MEAN	SD	MEAN	SD	MEAN	SD	MEAN	SO	MEAN	SD
VIO	SPASS		SPASS	; ; ;	SPASS		1FAIL		1FAIL	
18-	2FAIL		4FAIL		1FAIL		2FAIL		1FAIL	
110	3FAIL		4FAIL		4FAIL		2FAIL		SFAIL	
ICC	SPASS		SPASS		SPASS		5PASS 5PASS		5PASS 5PASS	
			i		1					

REF.NO. RECORD 66 4010

TECHNOLOGY

FUNCTION OP AMP

GENERIC PART NUMBER

4010

	IGINAL		
OF	POOR	QUALI	TY

MANUFACTURER	_	PART NUMBER	UMBER		SPE	SPECIFICATION	NOIT	Ď	DATA SOURCE	CE
INTERSIL		ICL741MTH	HLW		! ! !	; ; ; ;		H	IRT CORP	1
LDC RAD, TYPE PART QTY.	PART	OTY.	BIAS							
UNK. CD-60		j - ! !	1ST T	EST:	1ST TEST: VS=15V, -15V; 2ND TEST: VS=5V,-5V	-15V:	2ND TEST	[: VS=5	 V5V	‡ ‡ ‡
CUM. DOSE (RADS):	0			82K	ñ	300K	36	360K		
PARAMETERS	MEAN	SD	MEAN	S	MEAN	S	MEAN	SD	MEAN	So
	1.20	- - - -	500	! ! !	FAIL	! ! !	0.0	!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!	[[]]	! ! ! !
IB NA IO	28.00		85.00		FAIL		164.0			
GBW KHZ	1115.		1104		FAIL		1201.			

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GENERI	GENERIC PART NUMBER	MBER	FUNCTION	NO		TEC	TECHNOLOGY		æ	:F.NO.	REF.NO. RECORD
741			OP-AMP	f	 	BIPOLA	BIPOLAR		72	24-32	4240
MANUFACT	MANUFACTURER		PART NUMBER	UMBER		SPE	SPECIFICATION	NOI	0	DATA SOURCE	RCE
NATIONAL	IAL.	; ! !	LM744F	; ; ; ;	 	COM	COMMERCIAL		1 22	ROCKWELL	1
LDC	RAD. TYPE PART QTY.	E PAR	T OTY.	BIAS							
8032	09-00	# 	7	V+= 15\	, V-=-	15V. N	V+=15V, V-=-15V, NONINV-INPUT=5V, INV-INPUT=0UTPUT	NPUT=5	V. INV-	INPUT	OUTPUT
CUM. DO	CUM. DOSE (RADS):	 	0		30K	~	100K	ั พั	300K		
PARAMETERS	TERS	MEAN	SD	MEAN	S	MEAN	SD	MEAN	SD	MEAN	SD
D VOS D 10S D 11B	NAN			095 076 19.00	095 0.056 076 0.187 19.00 1.916	064 560 60.99	064 0.186 560 0.370 60.99 7.356	447 -2.16 186.4	447 0.243 -2.16 1.422 186.4 22.36		

RECORD 4320

REF. NO.

TECHNOLOGY

FUNCTION

GENERIC PART NUMBER

OP-AMP

BIPOLAR

DATA SOURCE

SPECIFICATION

PART NUMBER

MANUFACTURER

FAIRCHILD

LM741

S

MEAN

S

MEAN

SD

MEAN

Ş

MEAN

S

MEAN

PARAMETERS

AVOL

0

CUM. DOSE (RADS):

171.5 54.45 89.00 4.243 92.00 1.414 2.775 1.379 93.50 28.99 -1.70 3.253

30.41 0.000 4.950 1.032 15.20 1.768

378.5 92.00 98.50 1.420 58.25 .2500

535.5 50.21 92.00 0.000 100.0 8.485 .9850 .9263 15.70 .7071 -.100 .4243 2.000 .0707

CMR PSRR V10 IIN I10 ICC REMARKS:

VS=+/-20V, RL=2K, VIN-=VD, VIN+=3V

BIAS

PART OTY.

RAD. TYPE

LDC

09-00

7846

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GENERI	GENERIC PART NUMBER	MBER	FUNCTION	NO		TEC	rechijology		RE	F.NO.	REF.NO. RECORD
741	1 1 1 1 1 1 1	i i i	OP AMP	 	! ! !	181P	BIPOLAR		0	1013	5120
MANUFA	MANUFACTURER		PART NUMBER	UMBER		SPE	SPECIFICATION	NOI.	Q	DATA SOURCE	JRCE
FAIRCHILD	ILD	 - 	UA741	 	[. . . .	į	! ! !	 	TRW	38	; ; ; ;
LDC	RAD. TYPE PART QTY.	E PAR	r QTV.	BIAS							
7840A	09-00		4	V+= 15V	, V-=-	15V, V	IN=1V(P	-P) 1KH	V+=15V, V-=-15V, VIN=1V(P-P)1KHZ, RIN=10K, RL=5K *	Ş.	4L=5K *
CUM. DO	CUM. DOSE (RADS).		0		Š.	* Y	20K		50K		
PARAMETERS	TERS	MEAN	OS.	MEAN		MEAN	SD	MEAN SD	SO	MEAN	SD
AVOL	1KHZ DB	57.88	57.88 0.556	57.75	57.75 0.569	57.70	57.70 0.622		57.10 1.283	i ! !	
VOS		0.895	1.383	1.097	1.412	1.264	1.475		27.37		
105	N A	3.153	3.153 2.784	3.657	2.970	3.841	3.177		22.40 11.41		
18	N A	-24.1	4.718	-29.5	4.645	-32.8	-32.8 4.195		4.674		

REMARKS: **AVOL @ 1HZ WAS NOT TESTED. *RF=100K, NON-INV INPUT TO GND VIA 9.1K.

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×

*****	**************	*****	********	DAGE A-29
	GENERIC PART NUMBER	FUNCTION	TECHNOLOGY	REF NO DECODE
	741	OP AMP	BIPOLAR	1030 5320
	MANUFACTURER	PART NUMBER	SPECIFICATION	DATA SOURCE
		UA741AH		TRW
	LDC RAD, TYPE PART QTY,	. — .		
	8147 CO-60	í l:	V+=15V, V-=-15V, VIN=1V(PP) 1KHZ, NON-INV. INPUT	ON-INV. INPUT *
	ADS):	30K	60K 100K	
	WETERS	SD MEAN SD	MEAN SD MEAN SD	SD MEAN SD
	AVUL 1H2 DB 116.4 VOS MV 1.349 IDS NA 1.082 IB NA 22 56	0.48 106.6 1.32 0.513 2.254.1.509 1.795 6.753 0.777	94.37 6.97 35.87 2	2.79 2.30 0.21

REMARKS: *VIA 9.1K TO GND, RIN=10K, RF=100K, RL=5K.

GLINERIC PARI NUMBER	MBER FUNCTION	NOI	TECHNOLOGY		REF.NO. RECORD	RECORD
747	OP-AMP		BIPOLAR		24-33	4250
MANUFACTURER	PART	PART NUMBER	SPECIFICATION	LION	DATA SOLIDS	100
NATIONAL	LM747F		COMMERCIAL		ROCKWELL	2 Y Y Y
LDC RAD, TYPE	RAD. TYPE PART GTY.	BIAS				
7914 C0-60	4	V+=15V, V-=-15V, NONINV-INPUT=5V, INV-INPUT=0UTPUT	5V, NONINV-I	NPUT=5V, I	5V, INV-INPUT=	OUTPUT
CUM.DOSE(RADS):	o i	30K	100K	300K		
ELEKS	MEAN SD	MEAN SD	MEAN SD	MEAN SD	MEAN	So
D VOS D IOS NA D IID NA		064 0.052 0.265 0.394 14.44 7.295	438 0.680 89.99 124.9 138.8 67.92	842 0.540 99.29 134.8	8 8 9	: : : :

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REMARKS:

747	GENERIC PARI NUMBER	UMBER	FUNCTION	No		TEC	TECHNOLOGY		X	. NO.	REF.NO. RECORD
	F. 2		OP-AMP			B1P(BIPOLAR	;] ! ! !	24	24-34	4260
MANUFACTURER	rurer		PART NUMBER	UMBER		SPE(SPECIFICATION	NOI	Ď	DATA, SOURCE	JRCE
TEXAS INST	LS7	1 1 1 1	LM747	 		COM	COMMERCIAL	! ! ! ! !		ROCKWELL	; ; ; ; ;
	RAD. TYPE		PART OTY.	BIAS							
7927 (09-00	t f f t	4	V+= 15V	\ - \	15V, NC	V+=15V, V-=-15V, NONINV-INPUT=5V, INV-INPUT=OUTPUT	NPUT=5V	· INV	INPUT	=0UTPUT
CUM.DOSE(RADS):	E(RADS):		0	(y) 	30K	¥	100K	36	300K		
PARAMETERS	ERS	MEAN SD	SD	MEAN		MEAN SD	SD	MEAN SD	SD	MEAN	SD
0 VOS 0 10S	Z Z Z		! ! ! !	029 0.037 159 0.104	029 0.037 159 0.104	1.078	1.078 2.131	1.449 0.793	3.82 6.789	I # # #	

REMARKS:

GENERIC PART NUMBER	UMBER FUNCTION	NOI	TECHNOLOGY		REF	REF.NO. RECORD	PECORD
747	DUAL	DUAL OP AMP	BIPOLAR	f 1 1 1 1	1031	1031	5330
MANUFACTURER	PART	PART NUMBER	SPECIFICATION	NOI	DATA	A SOURCE	SCE
FAIRCHILD	UA747	1	, E	1 	TRW		
	PA	BIAS					
8110 CD-60	15	V+=12V, V-=-	V+=12V, V-=-8V, VIN=1V(PP)1KHZ, NON-INV INPUT TO) 1KHZ.	NON-IN	UNDU	10
CUM.DOSE(RADS)	0	†OK	20K	C)	50K		
PAKAMETERS		I.	1	MEAN	SD	MEAN	SD
ZH1	110.0 4.108	99.93 3.939	94.64 4.387	88.50 5.521	5.521	 	i ! !
IDS NA	0.640 1.621	3.895 6.391	9.660 13.19	19.29 11.54	11.54		
	41.94 14.27	98.06 27.72	135.9 46.78	292.9 68.22	68.22		

REMARKS: *GND VIA 9.1K, RIN=10K, RF=100K, RL=5K.

GENERIC PART NUMBER	ART NUME	3ER	FUNCTION	NO		TECH	TECHNOLDGY		RE	F.NO.	REF.NO, RECORD
7520			10 BIT D/A	D/A	# 	CMDS	 	! ! ! !	68	68-1	4090
MANUFACTURER	ZER		PART NUMBER	UMBER		SPE	SPECIFICATION	NOI	DA	DATA SOURCE	JRCE
UNK.	1 1 1 1 1 1	i ! !	MP7520	 - - - -	1 		 		IR	IRT CORP	
	RAD. TYPE		PART OTY.	BIAS							
UNK. CD60	090	i ! !	r I	CNK.	! ! ! !	; 	 	; ; ; ; ;	(
CUM.DOSE(RADS):	(SQV)			e i	3. 1 K	ý	6. *	·	± ±		
PARAMETERS		MEAN	SD	MEAN	SD	MEAN	SD	MEAN	SD	MEAN	S
100(+10V) 100(-10V)	N A A	00	0.0	00	0.0	0.0	0.0	.0560	.0560 .1252);];]; [,
101(+10V)	NA N	373.1	30.89		.,.	872.5	30.89	873.3	30.89		
(SEE REMARKS)	}	5	9		t		- 6 9		50.		

REMARKS: IOO=1(OUT) W/ALL INPUT BITS=0; IO1 SIMILAR. (+10V),(-10V) ARE REF V'S.

GENERIC PART NUMBER	MBER	FUNCTION	NO		TEC	TECHNOLOGY		RE	F. NO.	REF.ND. RECORD
7520	 	10 BIT D/A	D/A	 	CMOS	8		68-1	-	4100
MANUFACTURER		PART NUMBER	UMBER		SPE	SPECIFICATION	ION	DA	DATA SOURCE	IRCE
UNK.	! ! !	AU7520			<u> </u>	 	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	IR	IRT CORP	
	E PAR	r ory.	BIAS							
UNK. CD60			CNK.	! ! !	 	 	# # # # ! !	[]] !		
CUM. DOSE(RADS):				4 f.:		8				
PARAMETERS	MEAN	SD	MEAN	SD	MEAN	SD	MEAN	SD	MEAN	SO
A V	0.0	0.0	0260	.0260 .0321	166.5	363.7	6 1 1 1	4 1 1 1		!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!
ov) ov) uA	752.9	752.9 410.9	953.0	40.57	952.7	952.7 40.48				
(SEE Remarks)										

REMARKS: IOO=I(UUT) W/ALL INPUT BITS=O; IO1 SIMILAR. (+10V),(-10V) ARE REF V'S.

GENEDIC DADT NIMBED. 7500			
		7520	INFO TO DADT NIMRED.

GENERIC PART NUMBER FUNCTION 7520 10 BIT D/	FUNCTION 10 BIT D/A	TECHNOLOGY	REF.NO. RECORD	RECORD 4110
MANUFACTURER	PART NUMBER MF7520	SPECIFICATION	DATA SOURCE	JRCE

2	OVO	PAN TYPE	PART OTY	OTV.	BIAS
) 					
CNK.	09-00	_	S	J	UNK.

CUM. DOSE (RADS):	0		တ်	3. 1 K	6. X	¥	_	¥		
	111111111111111111111111111111111111111	1	1		1 1 1				1 1 1 1 1	1 1 1 1
PARAMETERS	MEAN	۵	MEAN	SD	MEAN	SD	MEAN	SD	MEAN	S
	1 1 1 1 1 1 1		1 1	1	1	11111	1	11111	1 1 1	1 1 1 1
100(+10V) UA	0.0 0.0	0.0	<u>၀</u>	0.0 0.0	0.0	0.0 0.0	.0560	1252		
100(-10V) UA	0.0	0.0	0.0	0.0	0	0	062	. 1386		
ID1(+10V) UA	873.1 30	60.0	873.2	30.09	872.5	30.89	873.3	30.88		
IO1(-10V) UA	-873. 30	60.	-873.	30.09	-873.	30.89	-873.	31.03		
(SEE										
REMARKS)										

REMARKS: IOO=I(OUT) W/ALL INPUT BITS=0; IO1 SIMILAR. (+10V),(-10V) ARE REF V'S.

GENERIC PART NUMBER FUNCTION TECHNOLOGY	GENERIC PART NUMBER	UMBER	FUNCTION	NC		TECH	TECHNOLOGY			REF.NO. R	RECORD
7520		! ! !	10 BIT D/A	D/A	 	CMOS	 	; ; ; ; ;	29	<u>.</u>	4130
MANUFACTURER	TURER		PART NUMBER	UMBER		SPEC	SPECIFICATION	NO	DAT	DATA SOURCE	CF
C NK	 	1	AD7520	; 	1 1 1 1 1	! ! !	 		IRI	IRT CORP	
rDC	RAD. TYPE	PE PAR	PART OTY.	BIAS	·	 		; ;	, , , ,	 	! ! !
CNK.	09-00		NK N	CNK.	,	 - - -					
CUM. DOS	CUM. DOSE(RADS):	•	0		4	 	80 X		; ;]] 1 4
PARAMETERS	ERS	MEAN	SO	MEAN	SD	MEAN	SO	MEAN	SO	MEAN	SD
100(+10V) 100(-10V) 101(+10V)	0 () () () () () () () () () (952.9		000	.0300 .0400 40.57	166.9 : -166. : 952.7 : 535.8	36 35 40 15				
(SEE REMARKS)											

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REMARKS: IOO=I(OUT) W/ALL INPUT BITS=0; IO1 SIMILAR. (+10Y),(-10V) ARE REF V'S.

PAGE A-303

RECORD 4140

REF.NO.

TECHNOLOGY

10-BIT D/A CONVERTR

FUNCTION

GENERIC PART NUMBER

PAGE IS

MANUFACTURER	PART NUMBER	3ER	SPECIFICATION	200	
UNK.	MP7520				DATA SOURCE
					IRT CORP
LDC RAD, TYPE PART	PART OTY. BI	BIAS			
UNK. CD-60 UNK	l	UNK.			1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
CUM.DOSE(RADS): 0 PARAMETERS MEAN SD IDO(+10V) UA 0.0 0.0 ID1(+10V) UA 0.0 0.0 ID1(-10V) UA 873.1 30.09 (SEE REMARKS)	SD ME. 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0	3.1K MEAN SD 0.0 0.0 0.0 0.0 873.2 30.90 -873. 30.90	6. 1K MEAN SD 0.0 0.0 0.0 0.0 872.5 30.89 -873. 30.89	MEAN SD .0560 .1252 062 .1386 873.3 30.88 -873. 31.03	MEAN SD

REMARKS: IDO=I(OUT) W/ALL INPUT BITS=O; ID1 SIMILAR. (+10V).(-10V) ARE REF V'S.

***************************************	67-1 4030	DATA SOLIDCE	IRT CORP			D MEAN SD
TECHNOLOGY	CMOS	SPECIFICATION				8K MEAN SD MEAN SD 5.282 4.496 6.060 4.982 1134. 241.4
FUNCTION	12 BIT DIA	PART NUMBER	AD7521	20	5 UNK	SD MEAN SD 0.0 0.00 0.0122 0.0 0.0160 0.007 241.3 1134. 241.2 241.3 241.3
GENERIC PART NUMBER	7521	MANUFACTURER	UNK.	LDC RAD. TYPE PART OTY.	UNK. CD60	PARAMETERS MEAN IDO(+10V) UA 0.0 ID1(+10V) UA 0.0 ID1(+10V) UA 1135. ID1(-10V) UA 1135. (SEE REMARKS)

REMARKS: IDO=I(DUT W/ALL INPUT BITS=O; ID1 SIMILAR. (+10V),(-10V) ARE REF V'S.

GENERIC PART NUMBER	ER FUNCTION	NO	TECHNOLOGY		REF.NO.	REF.NO. RECORD
7521	12 BIT D/A	D/A	CMOS		67-1	4040
MANUFACTURER	PART NUMBER	UMBER	SPECIFICATION	NOI	DATA SOURCE	URCE
UNK.	MP7521					
LDC RAD. TYPE	PART OTY.	BIAS				
UNK.		UNK.	# #	; ; ; ; ; ; ;	 	1 1 1 1 1 1
CUM. DOSE(RADS):	0	3.7K	8 8		1	
PARAMETERS ME	MEAN SD	MEAN SD	MEAN SD	MEAN SD	MEAN	SD
100(+10V) UA 100(-10V) UA 101(+10V) UA 86 101(-10V) UA -8 (SE REMARKS)	0.0 0.0 0.0 0.0 866.3 29.40 -866. 29.39	0.0 0.0 0.0 859.9 29.17 -865. 28.83	.0060 .0055 .000 0.0 865.6 28.88			
REMARKS: IOO=1(GUT) W/ALL INPUT BITS=0; IO1 SIMILAR. (+10V),(-10V) ARE REF V'S.	r) W/ALL IN	PUT BITS=0; I	DI SIMILAR. (+10V),(-10	V) ARE R	EF V'S.

GENERI	GENERIC PART NUMBER	iL.		TECHNOLOGY	
7521		12-BIT	12-BIT D/A CONVERTR	CMDS	68 4070
MANUFA	MANUFACTURER	PART NUMBER	UMBER	SPECIFICATION	DATA SOURCE
UNK.		MP7521	1. 		IRT CORP
TDC	RAD. TYPE	RAD. TYPE PART QTY. BIAS	BIAS		
C I	09-00	UNK	UNK.		
CUM. DC	CUM.DOSE(RADS):	0	3.7K	7.9K	

CUM. DOSE (RADS):		_	e.	3.7K	7.	7.9K				
PARAMETERS	MEAN SD	MEAN SD	MEAN	MEAN SD	MEAN SD	MEAN SD	MEAN	MEAN SD	MEAN SD	SD
100(+10V) UA		0.0		0.0	0.0 0.0 0.0055	.0055	1	1 1 1 1	1	† † ! !
100(-10V) UA		0.0 0.0		0.0	0.0	0.0				
ID1(+10V) UA		29.00		29.00	865.0	28.00				
ID1(~10V) UA		29.00		29.00	-865.	28.00				
(SEE										
REMARKS)										

REMARKS: IOO=1(OUT) W/ALL INPUT BITS=0; ID: SIMILAR. (+10V).(-10V) ARE REF V'S.

REF.NO. RECORD

TECHNOLOGY

12 BIT D/A FUNCTION

GENERIC PART NUMBER

4080

DATA SOURCE IRT CORP

SPECIFICATION

PART NUMBER AD7521

MANUFACTURER

CNX

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	i ! !		SD	†
			.1	; [] ; ;
	i 		SD	
	; 		MEAN SD	
	 	8	SD	4.495 4.981 241.4 241.1
	, ; ; ; ;		MEAN SD	5.282 -6.06 1134. -113.
	f - :	4	SD	
BIAS	UNK.		MEAN SD	
OTY.	UNK		SD	0.0 0.0 0.0 0.0 1135. 241.3
PART			1	0.0 0.0 1135.
RAD. TYPE PART OTY.	09	CUM.DOSE(RADS):		UA A A U
		OSE (R	PARAMETERS	(SEE
LDC	UNK.	CUM.D	PARAM	100(+10V) 100(-10V) 101(+10V) 101(-10V) (SEE

REMARKS: IOO=I(OUT) W/ALL INPUT BITS=0; IO1 SIMILAR. (+10V),(-10V) ARE REF V'S.

GENERIC PART NUMBER	ER FUNCTION	NO		TECF	TECHNOLOGY		2	REF.NO. RECORD	RECORD
7521	12-BIT	12-BIT D/A CONVRTR.	NVRTR.	CMOS			} 	1-13	4170
MANUFACTURER	PART NUMBER	IUMBER		SPEC	SPECIFICATION	NOI	Ö	DATA SOURCE	RCE
ADI	AD7521	1	 	!	 	1 . 1	JAD	JPL	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
LDC RAD. TYPE	PART OTY.	BIAS							
7825 CD-60	2	VDD=15	VDD=15V, VREF=15V	F=15V	! ! !	: : : : :	; ; ;		
CUM.DOSE(RADS):	0		3K	,	Š		20K		30K
PARAMETERS	MEAN SD	MEAN	SO	MEAN	SD	MEAN	SD	MEAN	SD
VTHL(MIN) V 1	. 790	1.550	: : :	FAIL	† ! !	FAIL	 	FAIL	- - -
> ¥	. 715	2.140		FAIL 1.945		FAIL 327K		FAIL	
OA	1485	. 1320		65.40		1200		FAIL	
IIH(MAX) NA	2.06 0172	2.01		2.02		2.02		FAIL	

MEAN = WORST-CASE PARAMETER VALUE (NOT AVERAGE) @VDD=15V, VREF=10V. REMARKS:

7570	
NUMBER:	
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GENERIC PARI NUMBER	SER FUNCTION	NOI		TECH	TECHNOLOGY		œ	REF. NO.	_
7570	10-B1	10-BIT A/D CONVRTR.	ONVRTR.	CMDS		! ! !	1	1-137	3980
MANUFACTURER	PART	PART NUMBER		SPEC	SPECIFICATION	NOI		DATA SOURCE	JRCE
MPI	MP7570	0	 		† † •	, } ! ! ! !		JPL	1
•••	PART OTY.	BIAS							
7803 CD-60		VCC=5V	VCC=5V, VDD=15V, VREF=-10V	5V. VRE	F=-10		1		
CUM.DOSE(RADS):	0	'n	3.0K	6.0K	×	20.	20.0K	4	40.0K
PARAMETERS	MEAN SD	MEAN	SD	MEAN	SD	MEAN	SD	MEAN	SD
ANALOG OUTPUT LEAKAGE I (MAX) NA	100	1 000	1		 	542			1 1 1 1
¥ X	0.800	1.250		5.80		19.55		FAIL	
(MAX) NA	. 555	1.650		0.500		2.05		FAIL	
REMARKS: MEAN =	= WORST-CASE PARAM. VALUE (NOT AVG.).	PARAM.	VALUE (I	NOT AVG		*CONTIN	UED O	*CONTINUED ON REC. 3981	3981.
****	* * * * * * * * * * * * * * * * * * * *	***	* * * * * * * * * * * * * * * * * * * *	***	***	****	* * *	****	* * * * *
GENERIC PART NUMBER	ER FUNCTION	ION		TECHN	TECHNOLOGY		2	REF.NO.	RECORD
7570	10-0+	CTOWNEY A / D CONNED	MIVOTO	2			•	1 1 1	

GENERIC PART NUMBER	BER FUNCTION	NOI		TECH	TECHNOLOGY		æ	F. NO.	REF.NO. RECORD
7570	10-81	10-BIT A/D CONVRTR	VRTR.	CMDS		; ; ; ; ; ;	¦ <u>+</u> -	1-137	3981
MANUFACTURER	PART	PART NUMBER		SPEC	SPECIFICATION	NOI	۵	DATA SOURCE	JRCE
MPI	MP7570	0,	! ! ! !	1	 		 	i 	1
LDC RAD. TYPE	PART OTY.	BIAS	1	 	*	; ; ; ;	 	1	1 1 1 1 1
CUM. DOSE (RADS)	0	3.0K	¥	9	6.0K	20.0K	ž	4	40.0K
PARAMETERS	MEAN SD	MEAN	as	MEAN	SD	MEAN	SD	MEAN	SO
	0.001	0.002		0.005) 	0.002	t - - -	FAIL	j
VOL (MAX) VA	.0003 0.345	0.341		0.343		0.351		FAIL	
CLUCK FMAX (MIN) KHZ	456	829		814		001		FAIL	

REMARKS: CONTINUATION OF RECORD 3980. *CONTINUED ON RECORD 3982.

3982 RECORD

REF.NO. 1-137

TECHNOLOGY CMOS

10-BIT A/D CONVRTR.

FUNCTION

GENERIC PART NUMBER

7570

DATA SOURCE

SPECIFICATION

PART NUMBER

MANUFACTURER

MPI

BIAS

PART OTY.

RAD, TYPE

LDC

ORI	GINAL	PAGE	15
OF	POOR	QUAL	TY

6.0K 20.0K 30.0K	MEAN SD			0.569 25.5 FAIL		0.751 1.751 FAIL	
3.0K				0.498		0.751	
0	MEAN SD	! ! ! ! ! ! !		0.409		0.751	
CUM. DOSE (RADS):	PARAMETERS	RELATIVE	ACCURACY,	LSB (MAX)	DIFFERENTIAL	NONLIN (MAX)	*

REMARKS: CONTINUATION OF RECORD 3981. *CONTINUED ON RECORD 3983.

GENERIC PART NUMBER	MBER	FUNCTION	NO		TEC	TECHNOLOGY		Ē	REF.NO.	_
7570		10-BIT	10-BIT A/D CONVRTR.	NVRTR.	CMDS		 	-	1-137	3983
MANUFACTURER		PART NUMBER	UMBER		SPE	SPECIFICATION	NOI.	۵	DATA SOURCE	JRCE
WPI]. 	MP7570		1	<u>.</u>	 	; ; ; ;	i !	; ; ; ;	! ! ! !
LDC RAD, TYPE		PART OTY.	BIAS		; ; ;	; ; ;	1	; ; ;		1
CUM. DOSE(RADS):	0		С	3.0K	9	6.0K	20.	20.0K	Ř	30.0K
PARAMETERS	MEAN	SD	MEAN	SD	MEAN	SD	MEAN	SD	MEAN	SD
VOH (MIN) V	4.81		4.80		4.79		4.73) - -	FAII	
	528		590		680		1540		FAI	
	697		766		873		0009		FAIL	
TOFF HBE NS	310		315		330		1860		FAIL	
	338		325		330		865		FAII	

REMARKS: CONTINUATION OF RECORD 3982.

GENERIC PART NUMBER	FUNCTION	TECHNOLOGY		REF.NO. RECORD	۰
7570	10-BIT A/D CONVRTR.	CMOS	! ! ! ! !	1-14. 4180	0
MANUFACTURER	PART NUMBER	SPECIFICATION			
ADI	AD7570	; 	; £ 1 † † †	JPL	į
RAD. TYPE		- - - -			
7844 CD-60	VDD=15V,	VCC=5V, VREF=-10V.	; ; ; ; ; ;		į.
CUM. DOSE(RADS):			15.0K	20.	
PARAMETERS MEAN	SD MEAN SD	MEAN SD ME	MEAN SD	MEAN SD	į i
TPUT] ' - -				ı
	0.800		8350	FAIL	
ILEAKUHMAX NA 0.500			77.3	FAIL	
4 4		0.076 0.	0.235	FAIL	
GENERIC PART NUMBER	NUMBER FUNCTION TECHNOLOGY	TECHNOLOGY		REF.NO. RECORD	۵
7570	10-BIT A/D CONVRTR.	CMDS	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	1-14 4181	! -
MANUFACTURER	PART NUMBER	SPECIFICATION		DATA SOURCE	
ADI	AD7570		1		ı
LDC RAD. TYPE PA	PART QTY. BIAS		; ; ; ; ;		į
CUM. DOSE(RADS):	3.0K	10.0 K	15.0K	20.0K	
PARAMETERS MEAN	SD MEAN SD	MEAN SD ME	MEAN SD	MEAN SD	• •
RELATIVE ACCURACY, LSB (MAX) 0.495 DIFFERENTIAL	0.575	030		1 1	1
NONLIN, LSB (MAX) 0.751	51 0.751	1.751 15	15.51	FAIL	
DEMABLE: CONTINUETIC	PENADKS CONTINUATION FORM DECADE A180	*CONTINUIED ON DECORD 4182	246	2	

GENERIC PART NUMBER	FUNCTION	NOI		TECH	TECHNOLOGY		RE	F.NO.	REF.NO. RECORD
7570	10-BI	10-BIT A/D CONVRTR.	NVRTR.	CMOS		; ; ; ; ; ;	! ! +	1-14	4182
MANUFACTURER	PART	PART NUMBER		SPEC	SPECIFICATION	NOI	DA	DATA SOURCE	RCE
ADI	AD7570	0	! ! ! !	!] ! !	! !	; ; ;	} ! ! !
LDC RAD. TYPE PA	PART OTY.	BIAS		; ; ;] ! ! !		 	; ; ;	9 1 1 1
CUM. DOSE(RADS);	0	က်	3.0K	0	10.0K	15.0K	¥	55	20.0K
PARAMETERS MEAN	SD	MEAN	SD	MEAN	SD	MEAN	SD	MEAN	OS
VOH (MAX) V 0.093	1 60	0.092	 - - -	0.094	1 	0.039		FAIL	} ! ! !
HZ	0	620.0		102.0		126.0		FAIL	
TON HBE NS 137.0	0	152.5		260.0		500.0		FAIL	,
NS	0	160.0		287.0		FAIL		FAIL	
REMARKS: CONTINUATION FROM RECORD 4181.	N FROM	RECORD 4	1181.	+CONTIN	VOED ON	*CONTINUED ON RECORD 4183	4183.		

GENERIC PART NUMBER	-	TECHNOLOGY	REF.NO.
7570	10-BIT A/D CONVRTR.	CMOS	1-14 4183
MANUFACTURER	PART NUMBER	SPECIFICATION	DATA SOURCE
LDC RAD, TYPE PART GTY.		BIAS	

CUM.	OUM. DOSE (RADS)	ADS):	0		က်	3.0K	ō	10.0 K	15.0K	¥	50	20.0K
PARA	WETERS		MEAN	SD	MEAN	AN SD	MEAN	SD	MEAN	EAN SD	MEAN SD	S
TOFF	TOFF HBE NS	NS	535	 	542): 	605) 	FAIL] ; ; ;	FAIL	<u> </u>
TOFF	LBE	SN	528		534		568		FAIL		FAIL	
100	(MAX)	Ν	0.00		1.000		625		3000		FAIL	
2021	(MAX)	N	0.046		0.144		34.6		138		FAIL	
ISK	(MIN)	MΑ	29.9		27.7		27.4		26.4		FAIL	
ISC	(MIN)	Ν	1.400		1.150		0.545		0.180		FA-L	

REMARKS: CONTINUATION FROM RECORD 4182.

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GENERI	GENERIC PART NUMBER	MBER	FUNCTION	N O		TEC	TECHNOLOGY		8	REF.NO. RECORD	F.MO. RECORD	H H H
9/			RF AMP	RF AMPLIFIER	: : : : :	BIP	BIPOLAR	1	1 4	1-124	4150	
MANUFACTURER	CTURER		PART NUMBER	UMBER		SPE	SPECIFICATION	NOI	DA	DATA SOURCE	ACE.	
MOTOROLA	רא		MIC76		! ! ! !	!	; 		JPL	JPL	# 	
LDC	RAD. TYPE	PAR	PART OTY.	BIAS								
NONE	2.5MEV EL		4	UNK.	 	 			1			
CUM. DOS	CUM. DOSE (RADS):			107	30K	15	75K	ŧ	150K	9	600K	
PARAMETERS	1	MEAN	SO	MEAN	S	MEAN	SD	MEAN	SD	MEAN	SD	
GAIN DB BIAS V ANGLE DEG IDRAIN MA	3 DEG MA	8.57 2.02 16.5 3.57			. 2380 . 0097 1. 994 . 0500	8.4 2.02 17.5 3.45	8.4 ,2217 2.02 ,0096 17.5 1.274 3.45 ,0816	8.4 2.02 19.	. 2217 .0099 1.080	8.4 2.02 19.	. 1826 .0068 1,377 .0816	

GENERIC PART NUMBER	NUMBER	FUNCTION	NOI.		TEC	TECHNOLOGY		2	F. NO.	REF.NO. RECORD
76		RF AM	RF AMPLIFIER		1 6 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	BIPOLAR	1	· -	1-125	4160
MANUFACTURER		PART	PART NUMBER		SPE	SPECIFICATION	NOI	Q	DATA SOURCE	ECF F
MOTOROLA		MIC76		 	İ		1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	JAN	JPL	
LDC RAD. TYPE		PART OTY.	BIAS							
NONE 2.5MEV EL	EL	4	CNK.	; ; ; ;		1		1		1
CUM.DOSE(RADS):	<u> </u>	0	·	30K	•	75K	. *	150K	9	600K
PARAMETERS	MEAN	SO	MEAN	SD	MEAN	So	MEAN	SD	MEAN	SD
GAIN DB	8.57		8.8	. 1732	80	. 1258	8.4	.2217	8.4	. 1826
ANGLE DEG	16.5		15.1	1.664	2.02 17.	2.02 .0088 173202	2.02	2.02 .0102	2.02	
IUKAIN MA	3.57		3.6	.0750	3.5	.0500	3,5	0200	5 6	

GENERIC PART NUMBER	FUNCTION) 	TECHNOLOGY			RECORD
7602	256 BIT	PROM	BIPOLAR	[25-101	4270
MANUFACTURER	PART NUN	NUMBER	SPECIFICATION	NOI	DATA SOURCE	 GE
HARRIS	HM1-7602-2	2-2	; ; ; ; ; ; ; ;		AEROJET	!!!!!
LDC RAD. TYPE PA	RT QTY.	BIAS				
A C0-60	ம	UNK .			1 1 1 1 1 1 1 1	! ! ! !
CUM, DOSE(RADS):	0	3.5	58.5	112K	328K	×
PARAMETERS MEAN	SD	MEAN SD	MEAN SD	MEAN SD	MEA	SO
IR SPASS	! ! !	5PASS	5PASS	5PASS	SPASS	!
		5PASS 5PASS	5PASS 5PASS	SPASS	SPASS	
IOH(E-BAR) SPASS		PASS	SPASS	SPASS	SPASS	
		PASS	SPASS	SPASS	SPASS	
NCTIONAL)		SPASS	SPASS	5PASS	SPASS	
***************************************	传送 计	*********	****	************	安全安全的	***
GENERIC PART NUMBER	FUNCTION	-	TECHNOLOGY		9	ш
	RIES	VOLT REG	BIPOLAR		70	4020
MANUFACTURER	PART NUN	NUMBER	SPECIFICATION	NOI	DATA SOURCE	m S
	WA78GKC		r 1 1 1 1 1 1 1 1	 	IRT	;
RAD. TYPE	PART OTY. B	BIAS				
UNK. UNK.	UNK	VIN=15V, RL=60	OHMS.	VD=12V, ID=200MA	4A	
CUM.DOSE(RADS):	0	100K	400K	E		
اللالا	SD		Z	₹ .	MEAN	SO
VO(60, 15) VO(120-15) VO(120-20))	
D VO(60-20) V	0	0.053 0.020	0.085 0.040	0.060 0.110	<u>o</u>	

REMARKS:

4280

25-102

DATA SOURCE

SPECIFICATION

PART NUMBER

MANUFACTURER

NSC

DS7800H

AEROJET

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MEAN

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PARAMETERS

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4PASS 4PASS 4PASS 4PASS 4PASS 4PASS 4PASS

4PASS 4PASS 4PASS 4PASS 4PASS 4PASS 4PASS

REMARKS:

329K

13K

58.5K

0

CUM.DOSE(RADS):

BIAS

PART OTY.

RAD. TYPE

SK SK

4

09-00

7616

REF.NO. RECORD

TECHNOLOGY

DUAL LEVEL SHIFT

FUNCTION

GENERIC PART NUMBER

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GENER1	GENERIC PART NUMBER		FUNCTION	NO		TEC	TECHNOLOGY	- *	RE	REF. 'O. RECORD	ECORD
7805			3-TERM P	3-TERM POS VOLT REG	LT REG	ı	BIPOLAR		80	805-16	009
MANUFA	MANUFACTURER		PART NUMBER	UMBER		SPEC	SPECIFICATION	ION	DA	DATA SOURCE	CE
FAIRCHILD	ILLD	 	UA7805	; ; ; ; ;	 	1	 		11	! ! ! ! !	
rpc	RAD. TYPE	PART	PART OTY.	BIAS							
CNK.	09-00		9	CNK		; 	 				
CUM. DC	CUM.DOSE(RADS):	0	.	12.5K	3K	.(1)	25K	•	50K	4	100K
PARAMETERS	TERS	MEAN	SO	MEAN	SD	MEAN	SD	MEAN	S	MEAN	SD
LOAD REG		13.33		28.17	28.17 1.607 5.097 .0370		23.83 1.211 5.102 .0369	5.105	24.42 1.268 5.105 .0370	25.00 1.426 5.115 .0371	1.426
LINE	REG MV	1.167	. 1506	1.250	. 2106		.2557	2.583	. 2904	3.484	424

REMARKS:

GENERIC PART NUMBER: 7805

GENERIC PART NUMBER	FUNCTION	TECHNOLOGY	REF.NO.	_
7805	VOLTAGE REGULATOR	BIPOLAR	1036	5380
MANUFACTURER	PART NUMBER	SPECIFICATION	⋖	SOURCE
FAIRCHILD	UA7805KM	, , , , , , , , , , , , , , , , , , ,	TRW	# # # # # # # # # # # # # # # # # # #
RAD. TYPE	PART OTY. BIAS			
F7714 CD-60	5 V+=+10V; PIN	IN 2 @ 5V; CASE @ GND	ID.	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
CUM.DOSE(RADS):	0 100K	300K	500K	
TERS	SD MEAN	. —	So	SD
VD@40V, .5A V 4.942	12 0.053 4.949 0.052	2 4.962 0.053 4.966	6 0.055	; 1 1
>	0.053 4.949	4.962 0.053		
VO@7V,O.1A V 4.961	11 0.053 4.968 0.052	2 4.982 0.053 4.986	16 0.055 6 0.055	
>>	0.053 4.935	4.948 0.053		
> : 4.	0.053 4.973	4.987 0.053		
VUETOV. : SA V 4.842 REMARKS:	2 0.053 4.949 0.052	2 4.962 0.053 4.988	18 0.074	
***************************************	**************	****	****	****
GENERIC PART NUMBER	FUNCTION	TECHNOLOGY	REF.NO.	2
8x300	MICROPROCESSOR	BIPOLAR	501-7	4340
MANUFACTURER	PART NUMBER	SPECIFICATION	DATA SOURCE	URCE
SIGNETICS	8X300		MARTIN	#

REMARKS: NO PRE RAD DATA AVAILABLE

12.40 1.673 14.90 1.746 120.0 14.14 4,500 .5000

12.80 14.20 122.0 4.400 487.0

12.20 .8367 14.40 1.517 120.0 00000 4.000 00000

11.60 1.140 13.80 .8367 104.0 8.944 4.400 .5477 488.0 2.739

489.0

1.643

MEAN

S

MEAN

MEAN

S 50K

MEAN

SD 0

MEAN

PARAMETERS

CUM. DOSE (RADS):

BIAS

PART OTY.

RAD. TYPE

09-00

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300K

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GENERIC PART NUMBER		FUNCTION	z		TECH	TECHNOLOGY	1	REF	REF.NO.	REF.NO. RECORD
8X300	 	MICROCONTROLLER	ONTROLL	ER	E	i.		11		5860
MANUFACTURER		PART NUMBER	JMBER		SPEC	SPECIFICATION	ION	DA	DATA SOURCE	RCE
SIGNETICS	! ! !	8x300	; ; ; ;			ŀ		¥ ¥	MARTIN	
LDC RAD. TYPE		PART OTY.	BIAS					1	! ! !	- 1
2469 C0-60**		5	VCC=+5V	25						
CUM.DOSE(RADS):	•	_		50K	5	100K	20	500K	# I	1MEG
PARAMETERS	MEAN	SO	MEAN	SD	MEAN	SO	MEAN	SO	MEAN	30
TA NS	11.8	11.8 .9798	11.6	11.6 1.020	12.2	12.2 ,7483	12.8		12.4	1,450
(MAX=35NS) TB NS	13.8	13.8 .7483	13.8	13.8 .7483	14.4	14.4 1.356	14.2	14.2 1.470	14.9	14.9 1.562
(MAX=35NS)PARAMETERS REMARKS: **AND	CONT.	N O	REC.	5861.						

MANUFACTURER PART NUMBER BX300	TTL SPECIFICATION	1106 5861
	SPECIFICATION	
1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		DATA SOURCE
LDC RAD, TYPE PART QTY, BIAS		

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CUM. DOSE (RADS):	0		ស	SOK	¥	100K	500K	500K	1MEG	IMEG
PARAMETERS	MEAN SD	SD	MEAN SD	MEAN SD	MEAN SD	MEAN SD	MEAN	MEAN SD		SO
TC NS	16 10.2	10.2	104	8.0	104 8.0 120 0.0	16 10.2 104 8.0 120 0.0 122 9.8	122	122 9.8	120 12.7	12.7
MCLK TO IVB5 (MAX=225NS)										:
TO NS	4.20	0.400	4.40	0.490	4.00	0.00	4.40	0.490	4.20 0.400 4.40 0.490 4.00 0.000 4.40 0.490 4.50 0.447	0.447
MCLK TO WCIN										
CONTROL										
(MAX=25NS) DEMARKS CONT FROM REC. 5860. CONT. ON REC. 5862.	FROM RE	586	O. CON	ON	REC. 58	362.				

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OF	POOR	QUALI	TY

GENERIC PART NUMBER		FUNCTION	z		TEC	TECHNOLOGY		Æ	F.NO.	REF.NO. RECORD
8.300	Ι Σ	CROCO	MICROCONTROLLER	ER	TTL	! ! !		; =	1106	5862
MANUFACTURER	à	PART NUMBER	IMBER		SPE	SPECIFICATION	NOI	DA	DATA SOURCE	JRCE
SIGNETICS	i 60	8X300	i i i	 - 	!	! ! ! !	! ! !	; ! ! !	 	!
LDC RAD. TYPE	PART OTY.		BIAS		1				1	! ; ! !
CUM.DOSE(RADS):	0			50K	¥	100K	ŭ	500K	•	1MEG
	MEAN	SD	MEAN	SD	MEAN	SD	MEAN	SD	MEAN	SD
CONT. FROM RECORD 5861	i i ! !	; ! !	} ! ! !	!	 	!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!	 	!		
TE(5)	487 4.000	000	486	486 4.899	489	489 2.000	487	487 4.000	485	485 4.472
FUNCTIONALITY	SPASS		5PASS		SPASS		5PASS		5PASS	
REMARKS: (5) TE: MCLK TO WC OUTPUT; SPECIFIED MAX = 525 NS.	MCLK TO	WC 0	UTPUT:	SPECI	FIED MA	X = 52	5 NS.			

GENERIC PART NUMBER		ION		TECH	TECHNOLOGY		REF.N	
8021	OP AMP		; ; ;	BIPOLAR	LAR		25-103	3 4350
MANUFACTURER	PART	PART NUMBER		SPEC	SPECIFICATION	NO	DATA	DATA SOURCE
INTERSIL	ICL8021	21		ł - - - -		1	AEROJET	ET
LDC RAD. TYPI	RAD. TYPE PART OTY.	BIAS						
20052 CD-60		UNK.			: 	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	1	, ; ; ; ;
CUM.DOSE(RADS):	0	12.5K	¥	42.5K	¥	133K		253K
PARAMETERS		1	SD	MEAN	SD	i	SD ME	MEAN SD
VIO	5PASS	SPASS	! ! !-	5PASS] 	5PASS	5P.	5PASS
18	5PAS*	SPAS*		SPAS*		5PAS*	SP	5PAS*
IIO	5PAS*	5PAS*		5PAS*		5PAS*	SP	AS*
10	5PAS*	5PAS*		5PAS*		5PAS*	5P	5PAS*
GBW	5PAS*	*SPAS		SPAS*		*VVd5	S	EDAC.

REMARKS: *ONE DEVICE HAD IB SLIGHTLY HIGHER THAN SPEC BEFORE AND AFTER IRRAD.

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GENERIC PART NUMBER	ART NE	JMBER	FUNCTION	TION		TECH	TECHNOLOGY		œ		RECORD
82511	! ! !	 	1024 X	1024 X 1 RAM		BIPOLAR	BIPOLAR	; ; ; ;		701-2	4330
MANUFACTURER	IRER		PART	PART NUMBER		SPEC	SPECIFICATION	NOI	٥	DATA SOURCE	SCE.
SIGNETICS	 	 	S82511F	11F	1 	!	; ; ; ;	! ! !	. A	AFWL-TR-79-118	79-118
	RAD. TYPE		PART OTY.	_							
UNK.	09-00	! ! !	40	VCC=5V			! ! ! !	; f ; ! !	! ! !	; ; ; ; ; ; ; ;	†
CUM.DOSE(RADS):	RADS):	.	0	¥	100K	Σ	300K	200	500K	\$	1MEG
PARAMETERS	Ş	MEAN	SD	MEAN	SD	MEAN	SD	MEAN	SD	MEAN	SO
ICC1	MA	81.90	1	81.00		79.70		78.90		76.40	i
101	ΜA	43.10	_	42.40		41.80		40.90		41.10	
10H	¥ν Σ	17.40	•	17.40		17.30		17.20		17.60	
2	2	3		3		20.30		30.40		06.10	

REMARKS:

GENERIC PART NUMBER		FUNCTION	NO.		TECH	TECHNOLOGY		α	REF.NO. RECORD	RECOR
825181	: ! !	1024XB	1024X8 BIPOLAR PROM	R PROM	BIPOLAR	IPOLAR	1 	-	1058	2600
MANUFACTURER		PART NUMBER	UMBER		SPEC	SPECIFICATION	NOI		DATA SOURCE	JRCE
SIGNETICS		5825181	-	 	; i t	; 	 	! -	TRW	
LDC RAD. TYPE		PART OTY.	BIAS							
8117A CO-60 + N*	1		VCC=+5V		; ! ! ! ! !	 	! ! ! !	! ! !	! ! !	
CUM.DOSE(RADS):			*N+200K	OK	٠					
PARAMETERS	MEAN	SD	MEAN	SD	MEAN	SD	MEAN	SD	MEAN	SD
>W	301.4	28.7	303.9	29.6	 	 	! ! !	: ! ! !		! ! !
≩	300.4	13.3	303.9	15.6						
<u>></u> ≥ X X	294.1	22.5	297.2	24.7 28.4						
>	96.5	14.0	299.7	16.7						
-	286.7	27.4	290.2	29.1						
REMARKS: *NEUTRON RAD.	RAD.	= 6.2	= 6.20E11 N/SOCM.	SOCM	**CONT	INUED	**CONTINUED ON RECORD 5601	IRD 56	04.	

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ORI	GINAL	Page	13
OF	POOR	QUALI	17

GENERIC	GENERIC PART NUMBER	NUMBER	FUNCTION	NO			TECHNOLOGY	_	REF.	9	REF.NO. RECORD
825181		 	1024X8 B	1024XB BIPOLAR PROM	K PROM		BIPOLAR	1 1 1 1 1 1	1058	i I	5601
MANUFACTURER	TURER		PART NUMBER	IUMBER		SPEC	SPECIFICATION	NOI	DATA SOURCE	Sou	RCE
SIGNETICS	ics	6. 6. 1 1 1	\$825181	-		1		1 1 1	1	!	1
TOC	RAD. T	YPE PAF	RAD. TYPE PART QTY. BIAS	BIAS				1			
CUM. DOS	CUM.DOSE(RADS):	<u></u>	0	*N+200K	Š						
PARAMETERS	ERS	MEAN		MEAN	So	MEAN	SD	MEAN	SD ME	MEAN	SO
VOL 10	₹ ₹	295.3	26.3	298.7	28.8 22.2		! ! !	! ! !	i ! !	 	! ! ! !

REMARKS: CONTINUATION OF RECORD 5600.

GENERIC PART NUMBER	NUMBER	FUNCTION	NO		TEC	TECHNOLOGY		œ	REF.NO. RECORD	RECOR
825181	 	1024X8	BIPOL/	1024X8 BIPOLAR PROM		BIPOLAR	 	-	1059	5610
MANUFACTURER		PART N	PART NUMBER		SPE(SPECIFICATION	NOI	۵	DATA SOURCE	RCE
RAYTHEON	 - 1; -	825181	i ! ! !	 		! ! !	; 6 6 1 1	F 	TRW	! ! !
LDC RAD. T	RAD. TYPE PART QTY.	r oty.	BIAS							
8002 C0-60 + N*	* ! * ! 2	ឆ	VCC=+5V	. NG		! ! !	 	!	 	
CUM. DOSE(RADS):		0	*N+200K	X						
PARAMETERS	MEAN	S	MEAN	So	MEAN	So	MEAN	SD	MEAN	SD
	223.4	12.93	224.5	11.79) 	 	 		1	1 1
VOL 15 MV	223.2	13.98	225.1	11.36						•.
	222.7	13.97	224.0	11.60						
	221.8	13.37	222.9	12.76						
VOL 11 MV	223.2	11.43	224.8	10.56						

	PAGE A-318	经预销的证券的复数的现在分词 医阿拉特氏病 医阿拉特氏病 医阿拉特氏病 计图片设置 计图片设置 计图片记录器 计图片记录器 计图片记录器 计图片记录器 计图片记录器 计图片记录器 计图片记录器 计图片记录器 计图片记录器 计图片记录器 计图片记录器 计图片记录器 计图片记录器 计图片记录器 计图片记录器 计图片记录器 计图片记录器 计图片记录器 计图片记录器 计图片记录器 计图片记录器 计图片记录器 计图片记录器 计图片记录器 计图片记录器 计图片记录器 计图片记录器 计图片记录器 计图片记录器 计图片记录器 计图片记录器 计图片记录器 计图片记录器 计图片记录器 计图片记录器 计图片记录器 计图片记录器 计图片记录器 计图片记录器 计图片记录器 计图片记录器 计图片记录器 计图片记录器 计图片记录器 计图片记录器 计图片记录器 计图片记录器 计图片设置器 计图片设置器 计图片设置器 计图片设置器 计图片设置器 计图片设置器 计图片设置器 计图片设置器 计图片设置器 计图片设置器 计图片设置器 计图片设置器 计图片设置器 计图片设置器 计图片设置器 计图片设置器 计图片设置器 计图片设置器 计图片设置器 图片 图片 图片 图片 图片 图片 图片 图片 图片 图片 图片 图片 图片 	
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825181	经验证的证据证据证明的证明的证明的证明的证明的证明的证明的证明的证明的证明的证明的证明的证明的证		
GENERIC PART NUMBER: 82	***************************************		

GENERIC PART NUMBER 825181	FUNCTION 1024X8 BIPOLAR PROM	TECHNOLOGY BIPOLAR	REF.ND. RECORD 1059 5611	
MANUFACTURER RAYTHEON	PART NUMBER	SPECIFICATION	DATA SOURCE	
LDC RAD. TYPE PART QTY.		BIAS		

REMARKS: **CONTINUATION OF RECORD 5610.

SD

MEAN

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MEAN

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MEAN

SD

MEAN

SD

MEAN

PARAMETERS

N+200K

0

CUM. DOSE (RADS):

228.5 12.15 231.4 10.47

226.2 13.21 229.3 11.63

≥ ≥

VOL 10 VOL9

GENERIC PART NUMBER	NUMBER	FUNCTION	NO		TEC	FECHNOLOGY		Ω	EF.NO.	REF.NO. RECORD	
825181		1024X8-B	1024X8-BIT PROM	ROM	BIP	BIPOLAR	-	∓ 	1072	5740	
MANUFACTURER		PART A	PART NUMBER		SPE	SPECIFICATION	NOI	۵	DATA SOURCE	E CE	
SIGNETICS	· · · · · 	5825181	-	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	!	1	1		TRW		
LDC RAD. TYPE	YPE PAR	PART OTY.	BIAS								
*N + 09-00 **	*2	2	VCC=+5V.	5V.							
CUM.DOSE(RADS):			*N+100K	¥00	*N+300K	. XO	*N+5000*	ž			
PARAMETERS	MEAN	SO	MEAN	SD	MEAN	SO	MEAN	SD	MFAN	9	
VOL *** MV	291.3	291.3 23.65	305.1	305.1.29.23	312.6		309.0	24.50		3 !	
-IOS *** MA ILHZO *** PA ILHZI *** NA	29.21 222.9 1.271	3.096 184.3 .2685	29.05 95.45 1.424	3.096 310.1 4041	28.96 3.025 1.260	28.96 3.097 3.025 421.9 1.260 .4629	2.952 28.84 45.57 1.256	2.952 .0729 28.84 3.098 45.57 395.9 1.256 .4962			
CONTINUED DN REMARKS: **7901,7909.	ON 11,7909.	REC. *NEUT	5741 RON RAE).=6.E1	1N/SQCM	REC. 5741 *NEUTRON RAD.=6.E11N/SQCM. ***AVERAGE OVER 8 PINS.	VERAGE	OVER	8 PINS		

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GENERIC PART NUMBER	FUNCTION	TECHNOLOGY		REF.NO. RECORD	RECORD
	1024X8-BIT PROM	BIPOLAR	1 1 1 1 1 1 1 1	1072	5741
MANUFACTURER	PART NUMBER	SPECIFICATION		DATA SOURCE	JRCE
SIGNETICS	S82S181	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		! ! !
LDC RAD. TYPE PART QTY. BIAS	RT QTY. BIAS] - - - -
CUM.DOSE(RADS): 0		N+300K	N+500K		
PARAMETERS MEAN	MEAN SD MEAN SD	MEAN SD	MEAN SD	MEAN	SD

*AVERAGE OVER 14 PINS. REMARKS: CONTINUATION OF RECORD 5740.

. 4612 1.810 13.37

12.09 E 27.36 899.8

5.517 .5220 2.759 20.68

12.61 .8907 24.01

14.16 5.375 .9943 .4376 17.73 1.393 913.3 18.56

. 2684 1. 232 10. 56

15.68 .8943 11.05 901.7

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IIM * IIH *

ACTURER PART NUMBER SPECIFICATION SIL ICL8211MTY SIL ICL8211MTY RAD. TYPE PART QTY. BIAS CO-60 3 VCC=5V OSE(RADS): 0 3.2K 8K 16 ETERS MEAN SD MEAN SD MEAN X * UA 43.66 3.035 41.25 2.143 37.60 1.034 33.32 N UA 46.78 2.110 44.97 1.554 41.97 7234 38.30	GENERIC PART NUMBER	MBER	FUNCTION	NO		TECH	TECHNOLOGY		R	REF.NO. RECORD	RECORD
ER PART NUMBER SPECIFICATI ICL8211MTY 60 3 VCC=5V ADS): 0 3.2K 8K MEAN SD MEAN SD MEAN SD UA 43.66 3.035 41.25 2.143 37.60 1.034 UA 46.78 2.110 44.97 1.554 41.97 .7234	8211	! ! !	VOLT.D	ETECTOR	1 INDIC	1	LAR	 	9		4360
ICL8211MTY 60 3 VCC=5V ADS): 0 3.2K 8K MEAN SD MEAN SD MEAN SD UA 43.66 3.035 41.25 2.143 37.60 1.034 UA 46.78 2.110 44.97 1.554 41.97 .7234	MANUFACTURER		PART N	UMBER		SPEC	IFICAT	NOI	DA	DATA SOUTCE	SCE
60 3 VCC=5V ADS): 0 3.2K 8K MEAN SD MEAN SD MEAN SD UA 43.66 3.035 41.25 2.143 37.60 1.034 UA 46.78 2.110 44.97 1.554 41.97 .7234	INTERSIL	; [1 1	ICL821	1MTY	i i i i] <u>R</u>	MOTOROLA	1
60 3 VCC=5V ADS): 0 3.2K 8K MEAN SD MEAN SD MEAN SD UA 43.66 3.035 41.25 2.143 37.60 1.034 UA 46.78 2.110 44.97 1.554 41.97 .7234			T 0TV.	BIAS							
MEAN SD MEAN SD MEAN SD NEAN SD NA 43.66 3.035 41.25 2.143 37.60 1.034 UA 46.78 2.110 44.97 1.554 41.97 .7234		1	6	VCC=51	1	: : : : : :		 	 		!
MEAN SD MEAN SD MEAN SD UA 43.66 3.035 41.25 2.143 37.60 1.034 UA 46.78 2.110 44.97 1.554 41.97 .7234	CUM.DOSE(RADS):			<u>က်</u>	2 *		8 X	•	Š Š		24K
* UA 43.66 3.035 41.25 2.143 37.60 1.034 UA 46.78 2.110 44.97 1.554 41.97 .7234	PARAMETERS	MEAN	1	MEAN	i .	MEAN		MEAN	SD	MEAN	SD
	*	43.66	3.035	41.25	2.143 1.554	37.60	1.034	33.32	.4583	28.56 1 34.56 1	1, 164

REMARKS: NEUTRON FIRST (1.65E12 N/SQCM.). *CURRENT @ PIN 8.

PAGE A-319

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PAGE A-32	· 一个,我们的人们的人们的人们的人们的,我们们的人们的人们的人们的人们的人们的人们的人们的人们的人们的人们的人们的人们的人

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93124	***
GENERIC PART NUMBER:	***
PART N	***
VERIC	****
GER	*

GENER	GENERIC PART NUMBER	MBER	FUNCTION	NO	,	TECH	TECHNOLOGY	>	_	REF.NO. RECORD	RECORD
93124] ;	5 BIT	5 BIT COMPARATOR	ATOR	1 <u>+</u>			 	25-104	4410
MANUFA	MANUFACTURER		PART NUMBER	UMBER		SPEC	SPECIFICATION	TION	_	DATA SOURCE	JRCE
FSC		; ! !	93L24DM] 	; 	; ; ; ;		AERO, ET	
CDC	RAD. TYPE		PART OTY.	BIAS							
CNK .	09-00	! ! !	i io	CNK	! !	i t f 1	! ! ! !	; ; ; ; ; ;	 - - - -	f J f f f 1	; ; ; ; ;
CUM. DC	CUM. DOSE (RADS):		0		19K	•,	56K	7	140K		250K
PARAMETERS	TERS	MEAN	SO	MEAN	S	MEAN	SD	MEAN	SD	MEAN	S
VOH		SPASS	 	SPASS	j - - -	SPASS	1 	SPASS	 	5PAS	S
Z V		SPASS		SPASS		SPASS		. SPASS		SPAS	ι.
Ξ		SPASS		SPASS		SPASS		SPASS		SPAS	ιń
HII		SPASS		SPASS		5PASS		SPASS		SPAS	S
IIL		SPASS		SPASS		SPASS		SPASS		SPASS	S
IOS		SPASS		SPASS		SPASS		SPASS		SPASS	S
ICC		SPASS		SPASS		SPASS		SPASS		SPAS	ĸ
REMARK	REMARKS: TWO LDC: 7622	C: 7622	-	PC: 7609, 4 PCS	4 PC	. •					

GENERI	GENERIC PART NUMBER		FUNCTION	CN		TECH	TECHNOLOGY		2	EF.NO.	REF, NO. RECORD
93L422	1 	1 ! 1 !	256X4 RAM	RAM	i ! ! !	BIPOLAR	LAR	; ; ; ;	12	79	4420
MANUFA	MANUFACTURER		PART NUMBER	UMBER		SPEC	SPECIFICATION	NOI	۵	DATA SOURCE	JRCE
FAIRCHILD	1LD	! ! !	931.422	; ; ; ;	; ; ;	911916	16	 - - - 	Ī	HUGHES	
רםכ	RAD. TYPE	E PART	PART OTY.	BIAS							
CNK.	0900		! ! !	VCC=5.5V). 20.	! ! ! !		! !	!	! ! !	[]]]]
CUM. DO	CUM. DOSE(RADS):	.0			10K	5	100K		Ξ		10M
PARAMETERS	TERS	MEAN	SD	MEAN	SD	MEAN	SD	MEAN	SD	MEAN	į
VIL	> V	. 1500		. 1500	† † 	1000	 	1510	[! ! !	1100	
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REMARKS:

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JMBER:	**
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GENERIC PART NUMBER: \$31.422	*****
GENERIC PAR	
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1060 IFICATION DATA SOUR TRW SD MEAN SD MEAN					1	·			1		
PART NUMBER SPECIFICATION 93L422 N* 10 VCC=+5V. 0 *N+30K MEAN SD MEAN SD MEAN SD 3.147 .0507 3.122 .0779 3.164 .0471 3.170 .0400 3.164 .0471 3.175 .0345 3.166 .0417 3.175 .0345 3.250 .4548 99220 31588 7400 .4701 1101 2477	3L422	· ·	256X4	STATIC	RAM	111			. -	090	5620
93L422 N* 10 VCC=+5V. O *N+30K MEAN SD MEAN SD MEAN SD 3.147 .0507 3.122 .0779 3.164 .0471 3.170 .0400 3.166 .0417 3.175 .0345 3.166 .0417 3.175 .0345 3.166 .0417 3.175 .0345 3.166 .0417 3.175 .0345 3.166 .0417 3.175 .0345 3.166 .0417 3.175 .0345	ANUFACTURER		PART N	UMBER		SPEC	HICATI	NO.	۵	ATA SOL	JRCE
N* 10 VCC=+5V. N* 10 VCC=+5V. O *N+30K MEAN SD MEAN SD MEAN SD 3.147 .0507 3.122 .0779 3.164 .0471 3.170 .0400 3.166 .0417 3.175 .0345 3.250 .4548 99220 31588 7400 .4701 1101 2477	AIRCHILD] 	931422	; 	 	1	; ; ; ; ;	 	! - !	. A	
0 *N+30K MEAN SD MEAN SD MEAN SD 3.147 .0507 3.122 .0779 3.164 .0471 3.170 .0400 3.166 .0417 3.175 .0345 3.166 .0417 3.175 .0345 3.166 .0417 3.175 .0345 3.166 .0417 3.175 .0345 3.166 .0417 3.175 .0345 3.166 .0417 3.175 .0345		PE PART	OTY.	BIAS				;	1		
MEAN SD MEAN SD MEAN SD MEAN SD 3.147 .0507 3.122 .0779 3.164 .0471 3.170 .0400 3.166 .0417 3.175 .0345 3.166 .0417 3.175 .0345 3.166 .0417 3.175 .0345 3.166 .0417 3.175 .0345 3.166 .0417 3.175 .0345 3.166 .0417 3.175 .0345			0	VCC=+5		 	! ! ! !) 	 	
V 3.147 .0507 3.122 .0779 V 3.164 .0471 3.170 .0400 V 3.166 .0417 3.175 .0345 V 3.166 .0417 3.175 .0345 NA .8250 .4548 99220 31588 NA .7400 .4701 1101 2477	UM.DOSE(RADS)			6+N*	SOK SOK		:		,		
V 3.147 .0507 3.122 .0779 V 3.164 .0471 3.170 .0400 V 3.164 .0431 3.138 .0828 V 3.166 .0417 3.175 .0345 NA .8250 .4548 99220 31588 NA .7400 .4701 1101 2477	ARAMETERS	MEAN	1 1	MEAN	SD	MEAN	SD	MEAN	SD	MEAN	SD
V 3.164.0471 V 3.164.0431 V 3.166.0417 NA .8250.4548 NA .7400.4701	DH10 V	3.147	.0507	3.122	6770.] 	l. I	r - 	
V 3.164 .0431 V 3.166 .0417 NA .8250 .4548 NA .7400 .4701	DH12 V	3.164	.0471	3.170	.0400						
V 3.166 .0417 NA .8250 .4548 NA .7400 .4701	DH14 V	3.164	.0431	3.138	.0828						
NA .8250 .4548 NA .7400 .4701	0H16 V	3, 166		3, 175	.0345						
NA . 7400 .4701		.8250	•	99220	31588						
	LHZ1-12 NA	. 7400	.4701	1101	2477						
	*								1		

GENERIC PART NUMBER	RT NUMB	_	NO	TECHNOLOGY	REF.NO. RECORD	RECORD
931,422] 		256X4 STATIC RAM	TTL	1060	5621
MANUFACTURER		_			DATA SOURCE	JRCE
FAIRCHILD	 	93L422	93L422			
LDC RAD	TYPE.	RAD. TYPE PART QTY.	_	BIAS	: 	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1

MEAN

SD

MEAN

MEAN SD N+30K

S

CUM. DOSE (RADS):

PARAMETERS

104.6 37.66 1449 2825

.0723 .2270 68.64 215.5

Şξ

ILHZ1-14 ILHZ1-16

REMARKS: **CONTINUATION FROM RECORD 5620.

MANUFACTURER		PART NUMBER	UMBER	SPE	SPECIFICATION	z	DATA SOURCE	JRCE
FAIRCHILD	† 	931422	. e e f f f f f f f f f	; 	 	1 ¹ 1 1 1 1 1	TRW	#
LD(RAD. TYPE		PART OTY.	BIAS			-		
197.8 C0-60 + N*	! ! !	10	VCC=+5V.					
CUM.DOSE(RADS):		0	*N+30K			1		1
PARAMETERS	MEAN	SD	MEAN SD	MEAN	W QS	MEAN SD	MEAN	SD
VOH10 V	3.102	.0178	2.875 .1710		f f f f			- - - - -
V0H12 V	3.124			₹ 1				
VOH14	3.120	0220	3 036 0676	0 (6				
ILHZ1-10 NA	1.150		_					
	. 7050	.2872		(0				
REMARKS: *NEUTRON RAD.	SON RAD	. = 6.0	= 6.09E11 N/SQCM.		**CONTINUED ON RECORD 5631	N RECORE	5631.	
*************************************	****	****	· · · · · · · · · · · · · · · · · · ·	*****	****	****	****	***
GENERIC PART NUMBER	JMBER	FUNCTION	NO	TEC	TECHNOLOGY		REF.NO.	RECORD
93L422	 	256X4	256X4 STATIC RAM	TTL			1061	5631
MANUFACTURER	1	PART N	NUMBER	SPE	SPECIFICATION	Z	DATA SO	SOURCE

RECORD 5630

REF.NO.

TECHNOLOGY

FUNCTION
256X4 STATIC RAM

GENERIC PART NUMBER

MANUFACTURER	•	PART NUMBER	JMBER			SPECIFICATION	NO	DA	DATA SOURCE	RCE
FAIRCHILD	6	931422	93L422	 	: 	?		 		
LDC RAD. TYPE PART QTY, BIAS	PART OTY.	0TY	. !	 	1		8 E E 0 9		 	;
CUM.DOSE(RADS):	0		N+30K	¥.						
PARAMETERS	MEAN SD	SO	MEAN SD	SD	MEAN SD	MEAN SD	MEAN SD	SD	MEAN SD	MEAN SD

REMARKS: **CONTINUED FROM RECORD 5630.

66.71 46.22 1.120 .4832

.9000 .4230 .8950 .4622

Z Z

ILHZ1-14 ILHZ1-16

RECORD 5720

GENERIC PART NUMBER	ART NUN	ABER	FUNCTION	N.		TEC	FECHNOLOGY		2	REF.NO. RECOR	RECOR
931422		j i i i	256X4	256X4 STATIC RAM	RAM	11.	 	; 	- - -	1070	572
MANUFACTURER	IRER	:	PART NUMBER	UMBER		SPEC	SPECIFICATION	NOI	DA	DATA SOURCE	RCE
FAIRCHILD) - - -	931.422	i ! ! ! !	f 	; ; ;	 	; } ! ! !	TRW	TR.	
LDC RA	RAD. TYPE		PART OTY.	BIAS							
7904 CC	09-00		S	VCC=+5V	5V.	; ; ; ; ;	 		 		† ! ! !
CUM. DOSE (RADS):	RADS):	0			40K		60K		80K	-	120K
PARAMETERS	S2	MEAN	SO	MEAN	SO	MEAN	S	MEAN	SD	MEAN	SD
VOL 1	\ <u>\</u>	293.3	7,32	299 4	7.938	301.4	301.4 8.308	303.	303.8 7.855	306.9	7.7
VOL2 VOL3	≩ ≩	303.9 318.0	9.35	323.4	9.579	308.4	8.674 9.735	327.8	3 9.670	332.0	9.78
VOL4	₹	323.0	7.11	324.5	₹.317	327.0	7.327	328.4	7,313	331.4	7.21
V0H1 V0H2	>>	2.742 2.765	.0242	2.882	2.882 .0610 2.760 .0372	2.900	2.900 .1324 2.770 .0410	2.942	.0419	3.088 .262 2.801 .060	.262
4											

7.778 8.782 9.716 7.217 .2624

**CONTINUED ON RECORD 5721.

REMARKS:

S

GENERIC PART NUMBER	PART NU		FUNCTION	NO		TECH	TECHNOLOGY		RE	REF.NO. RECORD	RECORD
931.422	 	 	256X4	256X4 STATIC	RAM	<u> </u>		 	1 0	1070	5721
MANUFACTURER	URER		PART NUMBER	UMBER		SPE(SPECIFICATION	NOI	DA	DATA SOURCE	RCE
FAIRCHILD	Q	i i i	931422	1 	! ! ! !		; 			(
LDC	RAD. TYPE	1	PART OTY.	BIAS	- - - - - -		! ! !		! ! ! !	1	; ; ;
CUM. DOSE(RADS):	(RADS):	0	ا ادي	4	40K	v	60K		80K	•	120K
PARAMETERS	RS	MEAN	SD	MEAN	SO	MEAN	SD	MEAN	SD	MEAN	S
VOH3	>	2.765	.0235	2.921	. 1744	2.931	. 1640	2.964	. 1685	3.091	.2560
VOH4	>	2.769	.0204	2.786	.0339	2.796	.0372	2.801	•	2.815	•
-1031	Ψ	44.65	1.809	44.48	1 .900	44.42	1.866	44.31	•	44.12	1.900
-1082	MA	44.87	1.611	44.63	1.725	44.59	1.668	44.48	1.685	44.33	_
-1033	Æ	43.48	1.364	43.35	1.484	43.25	1.448	43.12	_	42.97	•
-1054	MA	45.79	1.0i8	45.66	1.122	45.56	1.075	45.46	1.075	45.30	1.100
REMARKS: CONTINUATION OF RECORD 5720.	CONTIN	UATION	OF REC	ORD 572	20.	**CON	TINUED	**CONTINUED ON RECORD 5722	JRD 572	2.	

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PAGE A-323

931422
PART NUMBER
PAR
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w

931,422		256X4	STATIC	RAM	111] 	\$	1070	5722
MANUFACTURER		PART NUMBER	UMBER		SPEC	SPECIFICATION	NOI	ď	DATA SOURCE	*CE
FAIRCHILD	1 	931,422		! 	i i i i	; ; ; ; ;	1 1 1 1 1 1	[
LDC RAD. TYPE	PE PART	OTY.	BIAS] 	1 ! ! ! !	; ; ; ;	! ! ! !	; ; ; ;	i ! ! !	
CUM, DOSE (RADS)	·		. 4	40K	9	60K	œ	80K	¥	130K
PARAMETERS	MEAN	SD	MEAN	SO	MEAN	SD	MEAN	SD	MEAN	SD
ILHZO1 UA	.00.	.0004	30.58	1,928		2.431		1.156	-2040	
	.000	.0004		.0014		.0527		273.3	-5912	
1LHZ04 UA **	0007	.000.	002	.0011	29.78 002	.0011	28.79 007	7.007	-1173	1792. 1618.
**************************************	**** MBER	******* FUNCTION	* * * NO	* * * * *	TECH	**************************************	* * * * * * * * * * * * * * * * * * * *	* # &	REF.NO. F	******
931,422	1 1 1 1 1 1 1	256X4	STATIC	RAM	I I	1		<u> </u>	1070	5723
MANUFACTURER		ART	UMBER		SPEC	SPECIFICATION	NO	DA	DATA SOURCE	CE
FAIRCHILD	1 . · · · · · · · · · · · · · · · · · ·	93L422		F ! ! ! ! ! ! ! !	; ;	! ! !	! ! ! !	! !	! !	
LDC RAD, TYPE		PART OTY.	BIAS	i i i i	 		 	1 1 1 1	; ; ; ;	! ! !
CUM. DOSE (RADS)	0		4	40K	9	60K	œ	80K	~	120K
PARAMETERS	MEAN	SD		SD	MEAN	SD	MEAN	SD	MEAN	SD
 - -	.0004	.0003		30.83		39.69	134.6	41.57	160.9	39.37
ILHZ12 UA	00.0	000		.0022	0. <u>1</u>	.0016 35 03	132	00. 4.7	. 0087	.0083
214	00.	900		.0015	212	.00.		.00.	.00	
470	60	207		3 756	00 00	000		4 016	20 05	

REF.ND. RECORD 1070 5724

TECHNOLOGY

256X4 STATIC RAM

FUNCTION

GENERIC PART NUMBER

DATA SOURCE

SPECIFICATION

PART NUMBER

MANUFACTURER FAIRCHILD

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TDC K	RAD. TYPE	DE PAR	PART OTY.	BIAS					! ! !	Î † † !	
CUM. DOSE(RADS):	(RADS):		o	•	40K	v	60K		BOK	‡	120K
PARAMETERS	S2	MEAN	SD	MEAN	SD	MEAN	SD	MEAN	SD	MEAN	SD
IIM(4)*	AZ AZ	1.36	0.356	1.52	1.52 0.947	2.25	0.901	2.65	2.65 0.925	2.62	0.776
IIM(3)	× ×	2.33	2.33 0.540	2.41	1.154	2.55	2.55 1.149	2.25	1.429	2.39	2.39 1.199
IIM(2)	Ž	2.29	0.524	2.49	2.49 1.206	2.17	1.118	2.16	1.112	2.22	2.22 1.360
IIM(1)	N N	2.25	0.217	2.88	0.516	1.77	0.593	2, 17	0.414	2.04	0.687
11M(5)	¥	1.87	1.87 0.532	2.26	2.26 1.170	1.72	.72 1.005	1.79	1.248	1.77	1.77 1.375
IIM(6) **	A	2.00	0.357	2.45	2.45 0.596	1.60	.60 0.582	1.80	1.80 0.572	1.79	0.730
REMARKS: CONT. FROM KEC. 5723. *()=PIN NUMBER. **CONTINUED ON RECORD 5725.	CONT.	FROM K	EC. 5723	÷	N NId=	UMBER.	**CON	TINUED	ON REC	ORD 572	55.

GENERIC PART NUMBER		TECHNOLUGY	REF.NO. RECORD	RECORD
931,422	256X4 STATIC RAM	TTL	1070	5725
MANUFACTURER	PART NUMBER	SPECIFICATION	DATA SOURCE	RCE
FAIRCHILD	: : :)
LDC RAD. TYPE PART QTY. BIAS	RT QTY. BIAS	BIAS	1	

CUM. DOSE (RADS):		0		40K		60K	~	80K	7	120K
PARAMETERS	MEAN SD	SD	MEAN	EAN SD	MEAN SD	SO	MEAN	SD	MEAN	SD
IIM(7)*	1.84	1.84 0.135	1.88	1.88 0.436	1.91	1.91 0.469		0.717	1 75	0.672
IIM(9)	1.79	0.492	2.35	0.783	1.48	0.694		1.85 0.895	1.70	1.70 0.891
IIM(11)	2.8	.5172	2.35	.7408	1.74	.6887		. 9653	1.66	.9601
IIM(13)	1.81	. 2535	1.91	.4533	1.83	.5209		.3966	1.97	.7373
IIM(21)	1.99	.4722	2, 13	7397	2.04	.7537		1.037	1.90	.6411
**										

REMARKS: CUNT. FROM REC. 5724. *()=PIN NUMBER. **CONTINUED ON RECORD 5726.

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,是一个一个一个一个一个一个一个一个一个一个一个一个一个一个一个一个一个一个一个		《《《··································	CROSS ON THE	93L422.	LONG FUNCTION TIMBER	GENERIC PAR 256X4 STATIC RAM	DATA	PART NUMBER	MANUFACTURER 22	1	AND TYPE PART GIY	80K	AOK MEAN SD MEAN	MEAN SD MEAN SD 155.6	MEAN SD MEAN 135.5 15.27 139.6 1(12.73 879.1	411 6 7.005 153.7 32.33 869.1 12.65 817.	828.3		SWED 16 PINS.	24. *AVG. OVER 10*****************************	**************************************	TECHNOLOGY	9-10G NOI	BIPOLAR	256 X 4 KAM	SPECIFICATION	PART NUMBER	MANUFACTURER	933	7	E PART UIT.	J. F. S. S. S. S. S. S. S. S. S. S. S. S. S.	100K	O MEAN SD MEAN	MEAN SD MEAN 35	MEAN 30 18 174 17.6 18.00	20.67 1.528 21.67 33 2.082 16.33 2.51/ 27.33 2.309 27.33	NS 17.33 5774 (1.528 20.00 1.55 23.33 2.31	NS 27.00 1.000 25.67 1.528	NS ZE.OC	《他传教教授传教教授》《《《《》 《 《 》 《 》 《 》 《 》 《 》 《 》 《 》 《	,如果我们是我们的一个一个一个一个一个一个一个一个一个一个一个一个一个一个一个一个一个一个一个	AND AND AND AND AND AND AND AND AND AND	***********	1. ************************************	The state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the s

GENERI	GENERIC PART NUMBER	BER	FUNCTION	NO		TEC	TECHNOLOGY	:	R		_
93422			256 X 4 RAM	4 RAM	i i i i	BIPOLA	BIPOLAR		20	501-6	4390
MANUFACT	MANUFACTURER		PART NUMBER	UMBER		SPE	SPECIFICATION	ION	DA	DATA SOURCE	RCE
FAIRCHILD	ILLD	; ; ;	93422	! ! ! ! !	! ! ! ! !	! ! ! !	 	! ! !	W.	MARTIN	! ! !
rpc	RAD. TYPE	PAR	PART OTY.	BIAS							
7934	09-00	!	8	UNK.	 	 	 	; ; ; ;	f 		
CUM. DO	CUM.DOSE(RADS):		0	- I	SOK	7	100K	20	500K	•	1MEG
PARAMETERS	-	MEAN	S	MEAN	S	MEAN	SD	MEAN	SD	MEAN	SD
TACS NS TZRCS NS TAAHL NS TAALH NS		21.00 1 17.67 1 25.67 1 24.67 1		20.67 16.33 23.00 24.00	20.67 .5774 16.33 2.082 23.00 1.000 24.00 2.000	21.00 17.33 24.33 24.00	00000 1.528 1.528 1.000	19.67 15.00 23.33 23.00	19.67 2.082 15.00 3.000 23.33 .5774 23.00 4.583		20.33 2,309 17.67 2,082 24.33 1,528 23.67 1,155

REMARKS:

GENERI	GENERIC PART NUMBER	BER	FUNCTION	20		TEC	FECHNOLOGY		8	REF.NO. RECORD	RECORE
93422	; ; ; ; ; ; ; ;	!	256X4-BIT	256X4-BIT RAM	- - - -	H	: : : :	 	1	1105	5950
MANUFA	MANUFACTURER		PART NUMBER	UMBER		SPE	SPECIFICATION	NOI.	DA	DATA SOURCE	RCE
FAIRCHILD	ILD	! ! !	93422DMQB	MOB	; 		 	! ! !	₹ E	MARTIN	
LDC	RAD. TYPE		PART OTY.	BIAS							
7934	**09-00	!	9	VCC=+5V.	5V.	i ! ! ! !	 		E 1 1 1 1 1		-
CUM. DO	CUM.DOSE(RADS):				50K	¥	100K	ũ	500K	• • • • • • • • • • • • • • • • • • •	IMEG
PARAMETERS	TERS	MEAN	SD	MEAN	SD	MEAN	S	MEAN	3	MEAN	SD
FUNCTI		6PASS		6PASS		6PASS		. •). 	-	
TZRCS ***		20.8 17.5	20.8 1.067 17.5 .7638	21.2	21.2 .6872 16.8 1.772	20.3	20.3 .7453 15.2 3.131		18.7 1.700 15.8 2.609		20.0 1.414 17.8 1.951
TAA(UP) *	* .	26.3	1.247	24.8	2.115	25.2	1.572		2.427		2.478
TAA(DOWN)*	WN)* NS	25.8	1.572	24.8	1.675	25.8	2.034		8.180		2.082

***, *SPECS: *TYP=40NS, MAX=60NS; ***TYP=20NS, MAX=45NS. REMARKS: **AND LINAC.

GENERIC PART NUMBER		FUNCTION	z		LECT	rechnology		ez i	EF.NO.	REF.NO. RECORD
93425	i nž	RAM	 	; ; ; ; ;	111			7	701-1	4430
MANUFACTURER	<u>a</u>	PART NUMBER	MBER		SPEC	SPECIFICATION	TION	6	DATA SOURCE	JRCE
FAIRCHILD	6	93425DM	 					A	FWL-TR	AFWL-TR-79-118
~	_		BIAS				ı			1
UNK CD-60	5	- - - 	VCC=+5	V, ALL	VCC=+5V, ALL INPUTS AT GND	ATG	2			
CUM.DOSE(RADS):	0		•	100K	ဗ	300K	ŭ	SOOK	1	1MEG
PARAMETERS	į	SD	MEAN	SD	MEAN	SD	MEAN	SD	MEAN	SD
ICC	101.3	! !	102.6		103.2		101.1		102.9	Ó
	27.20		25.80		23.40		23.30		20.1	0
IOH MA	23.10		17.30		16.40		15.50		17.10	Ω
	20.70		22.30		24.90		25.70		23.0	0

REMARKS:

GENERIC PART NUMBER	FUNCTION		TECHNOLOGY		REF. NO.	REF.NO. RECORD
0066	16-BIT MI	16-BIT MICROPROCESS	IIL		1-141	4370
MANUFACTURER	PART NUMBER	ER	SPECIFICATION	NOI	DATA SOURCE	URCE
IL	SBP9900		1 1 1 1 1 1 1 1 1	; ; ; ; ; ; ; ;	JPL	
RAD, TYPE	PART OTY. BI	BIAS			. 1	
NONE 2.5 MEV EL	30 N	VCC=5V.	; ; ; ; ; ; ; ; ; ;			} }
CUM.DOSE(RADS):	0	10K	30K	100K		300K
PARAMETERS MEAN	SD	MEAN SD	MEAN SD	MEAN SD	MEAN	S
i .	:					
* KHZ 900 ** KHZ 2550		850 2550	2550	2350	FAIL	ا ــ ا
NOTE: X-BAR =WORST-CASE DEMADES: *IN-FCTION CLIDDENT = 90MA	CLIDDENT		**IN.ECTION CLIBBENT = S20MA	MO62 = 18		
MEMARKS: TIMOPOLITOR	T TANK TANK		TOTACK COUNT		;	

GENERIC PART NUMBER:

GENERIC PART NUMBER	BER FUNCTION	NOI	TECHNOLOGY		REF.NO. RECORD	RECORD
0066	MICRO	MICROPROCESSOR	IIL	 	804	4400
MANUFACTURER	PART	PART NUMBER	SPECIFICATION	NOI	DATA SOURCE	SCE.
L	SBP9900AMJ	OOAMJ	COMMERCIAL	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	GSFC PPM	1
LDC RAD. TYPE	RAD. TYPE PART OTY.	_				
7852 CO-60		+5V	*			
CUM.DOSE(RADS):	0	30K				
PARAMETERS M	MEAN SD	MEAN SD	MEAN SD	MEAN SD	MEAN	SD
FUNCTIONAL	PASS	FAIL	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1			

REMARKS: FUNCTIONAL TEST FROM MIL-M-38510/460 FAIL 18 OR LESS OF 5680 PATTERNS.

MICROCIRCUIT RADIATION EFFECTS DATABANK
SECTION B: SINGLE EVENT UPSET CROSS SECTIONS
(CYCLOTRON TESTS)

SORT: GENERIC PART TYPE: RECORD ID NUMBER

GENERIC PART NUMBER: 146	***************************************
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RECORD	100134		REF.NO.: 11		
TECHNOLOGY	CMDS/SDS	SPECIFICATION		1	
FUNCTION	4KX1 RAM	PART NUMBER	NO. OF PARTS: 3 DATA SOURCE: RCA/AEROSPACE	BIAS RUNS FLUENCE	LATCH CROSS SECTION MAX MEAN
GENERIC PART NUMBER	146	MANUFACTURER	•	ION ANGLE ENERGY	ERROR CROSS SECTION MAX MEAN

REMARKS: CHANNEL DXIDE = 1000 ANGSTROMS

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GENERIC PARI NUMBER	NUMBER	FUNCTION	TECHNOLOGY	RECORD
146		4KX1 RAM	CMOS/SOS	100135
MANUFACTURER		PART NUMBER	SPECIFICATION	
RCA		TCS 146		1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
LDC:	ND. OF PARTS:	ო	DATA SOURCE: RCA/AEROSPACE	REF.NO.: 11
ION ANGLE	ENERGY 168MEV	BIAS RUNS FLU	FLUENCE	
ERROR CROSS SECTION MAX MEAN	SECTION	CROSS S	ECTION	
	NE		NL.	

REMARKS: CHANNEL DXIDE = 1000 ANGSTROMS

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MANUFACTURER PART NUMBER	SPECIFICATION	100136
TCS146		
NO. OF PARTS: 3 D	DATA SOURCE: RCA/AEROSPACE REF.N	REF.NO.: 11
ANGLE ENERGY BIAS RUNS	FLUENCE	
ERROR CROSS SECTION LATCH CROSS MAX MEAN MAX	OSS SECTION MEAN	

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REMARKS: CHANNEL DXIDE = 1000 ANGSTROMS

GENERIC PART NUMBER 146 MANIFACTIDED	NUMBER	FUNCTION 	TECHNOLOGY	RECORD
ACIOKEK		PART NUMBER	SPECIFICATION	!
	NO. OF PARTS:	-	DATA SOURCE: RCA/AEROSPACE	REF.NO.: 11
ANGLE	ENERGY 168MEV	BIAS RUNS FLUENCE	!	
ERROR CROSS SECTION MAX MEAN	SECTION	LATCH CROSS S MAX		
2.5E-6	2.5E-6	- IN		

REMARKS: CHANNEL OXIDE=1000ANGSTROMS

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GENERIC PART NUMBER	NUNTER	FUNCTION	TECHNOLOGY	RFCORD
146		4KX1RAM	CMOS/SOS	100139
MANUFACTURER		PART NUMBER	SPECIFICATION	
RCA		TCS146		
rpc:	NO. OF PARTS:	-	DATA SOURCE: RCA/AEROSPACE REF.ND.: 11	-
ION ANGLE	ENERGY	BIAS RUNS FLUENCE		
ERROR C	SECTION	LATCH CROSS SECTION MAX MEAN		
4.3E-7	4.3E-7	N		

GENERIC PART NUMBER: 146

RECORD 100138

TECHNOLOGY CMOS/SOS

FUNCTION 4KX1 RAM

GENERIC PART NUMBER

146

REF.NO.: 11

DATA SOURCE: RCA/AEROSPACE

NO. OF PARTS:

LDC:

FLUENCE

RUNS

BIAS

ENERGY ------BOMEV

ANGLE

ION I AR LATCH CROSS SECTION MAX MEAN

ERROR CROSS SECTION MAX MEAN ź

REMARKS: CHANNEL DXIDE=1000ANGSTROMS

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SPECIFICATION

PART NUMBER

MANUFACTURER

RCA

TCS 146

REMARKS: CHANNEL DXIDE=1000ANGSTROMS

TECHNOLOGY RECORD CMDS/SDS 100140	R SPECIFICATION		DATA SOURCE: RCA/AEROSPACE REF.NO.: 11	FLUENCE	LATCH CROSS SECTION
FUNCTION 4KX1 RAM	PART NUMBER	TCS146	NO. OF PARTS: 1 D	Y BIAS RUNS	
GENERIC PART NUMBER	MANUFACTURER	RCA	LDC: NO. OI	ION ANGLE ENERGY	ERROR CROSS SECTION

REMARKS: CHANNEL DXIDE=1000ANGSTROMS

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146	4KX1 RAM	CMDS/SOS	100141
MANUFACTURER	PART NUMBER	SPECIFICATION	
RCA	TCS146		
LDC: NO.	NO. OF PARTS: 1 DATA SOURCE:	DATA SOURCE: RCA/AEROSPACE RE	REF.NO.: 11
ION ANGLE ENERGY	RGY BIAS RUNS FLUENCE		٠
ERROR CROSS SECTION MAX MEAN	TON LATCH CROSS SECTION N MAX MEAN		

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REMARKS: CHANNEL DXIDE=700 ANGSTROMS

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GENERIC PART NUMBER	FUNCTION	TECHNOLOGY	RECORD
		CMOS/SOS	
MANUFACTURER 	PART NUMBER	SPECIFICATION	

DATA SOURCE: RCA/AEROSPACE RUNS NO. OF PARTS: BIAS ENERGY 168MEV ANG! E LDC: K | ION

LATCH CROSS SECTION MAX MEAN ERROR CROSS SECTION
MAX MEAN

* ERROR CROSS SEC. IN ERRORS/PARTICLE/CHIP, NOT PER BIT REMARKS: CHANNEL DXIDE=700ANGSTROMS

GENER	GENERIC PART NUMBER	NUMBE	α	FUNCT 10N	NOI			TECHNOLOGY		RECORD
146		1	E I	4KX1 RAM	RAM	! !	1	CMDS/SOS	!	100143
MANUE	MANUFACTURER			PART	PART NUMBER	œ		SPECIFICATION		
RCA		i 	1. 1	TCS 146	TCS146	1	! ! !	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	 	
rpc:			JF PA	NO. OF PARTS:	-	DATA	SOURCE:	DATA SOURCE: RCA/AEROSPACE	REF.NO.: 11	<u></u>
NOI	ANGLE	ENERGY	<u>}</u>	BIAS			FLUENCE			
χ Υ	09	168MEV	. <u></u>	25	-	•	# 	•		

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> LATCH CROSS SECTION MAX MEAN ERROR CROSS SECTION
> MAX MEAN #6.3E-5

* ERROR CROSS SEC. IN ERRORS/PARTICLE/CHIP, NOT PER BIT REMARKS: CHANNEL DXIDE=700ANGSTROMS

GENERIC PART NUMBER	UMBER	FUNCTION	TECHNOLOGY	RECORD
146		4KX1 RAM	CMDS/SDS	100144
MANUFACTURER		PART NUMBER	SPECIFICATION	
RCA] 	TCS 146		•
LDC:	70. OF	NO. OF PARTS: 1 DATA SOURCE:	DATA SOURCE: RCA/AEROSPACE R	REF.NO.: 11
ION ANGLE E	ENERGY 168MEV	BIAS RUNS FLUENCE		
EPROR CROSS SECTION MAX MEAN	SECTION	LA		
	Z	N	:	

REMARKS: CHANNEL DXIDE=700ANGSTROMS

GENERIC	GENERIC PART NUMBER	NUMBER	-	- N		TECHNOLOGY	RECORD	
146		:	4KX1 RAM	AM	 		100145	
MANUF	MANUFACTURER	* 1 .	PART NUMBER	UMBER		SPECIFICATION		
RCA) 	TCS 146		1		 	
LDC:		NO. OF	NO. OF PARTS:	2 DATA	SOURCE:	DATA SOURCE: RCA/AEROSPACE	REF.NO.: 11	
NOI	ANGLE	ENERGY	_	RUNS	FLUENCE			
X.	09	168MEV) SV	7	1	!		
ER	ERROR CROSS SECTION MAX MEAN	SECTION		TCH CROSS	LATCH CROSS SECTION MAX MEÀN			
*	¥4.4E-4 *4.4E-4	*4.4E-4	· -	1. 1. 1. 1. 1.	Z	·		

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GENERIC PART NUMBER	NUMBER	FUNCTION	TECHNOLOGY	,
146	 	4KX1 RAM	CMOS/SOS	100146
MANUFACTURER		PART NUMBER	SPECIFICATION	
RCA		TCS146		
rpc:	NO. 0F	NO. OF PARTS: 2 DATA SOURCE:	DATA SOURCE: RCA/AEROSPACE REF.NO.: 11	_
ION ANGLE	ENERGY 	BIAS RUNS FLUENCE		
ERROR CROSS SECTION MAX MEAN	SECTION	LATCH CROSS SECTION MAX MEAN		
₩5.3E-4	*4.5E-4			۲.,

* ERROR CROSS SEC. IN ERRORS/PARTICLE/CHIP, NOT PER BIT REMARKS: CHANNEL OXIDE=850ANGSTROMS

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GENERIC PART NUMBER	NUMBER	FUNCTION	TECHNOLOGY	9000
146	į.	4KX1 RAM	CMOS/SOS	100147
MANUFACTURER		PART NUMBER	SPECIFICATION	
RCA	: : : :	TCS146		!
Tpc:	NO. 0F	NO. OF PARTS: 1 DATA SOURCE: RCA/AEROSPACE		REF.ND.: 11
ANG	ENERGY	BIAS RUNS FLUENCE		
KR 45	168MEV	5v 1		•
ERROR CROSS SECTION MAX MEAN	SECTION	LATCH CROSS S MAX	2	
#2.4E-4	#2.4E-4		N.	

* ERROR CROSS SEC. IN ERRORS/PARTICLE/CHIP, NOT PER BIT REMARKS: CHANNEL OXIDE=850ANGSTROMS

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GENERIC PART NUMBER:

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GENERIC PART NUMBER	NUMBER	FUNCTION	TECHNOLOGY	RECORD
146		AKX1 RAM	CMOS/SOS	100148
MANUFACTURER		PART NUMBER	SPECIFICATION	
RCA	 	TCS146		
rpc:	NO. OF P.	NO. OF PARTS: 2 DATA SOURCE:	DATA SOURCE: RCA/AEROSPACE REF.N	REF.NO.: 11
ION ANGLE	ENERGY 168MEV	BIAS RUNS FLUENCE		
ERROR CROSS SECTION MAX MEAN	SECTION MEAN	LATCH CROSS SECTION MAX MEAN		
4	*1.7E-4	N.	ı	

* ERROR CROSS SEC. IN ERRORS/PARTICLE/CHIP, NOT PER BIT REMARKS: CHANNEL OXIDE=850ANGSTROMS

GENERIC PART NUMBER	NUMBER	FUNCTION		TECHNOLOGY	RECORD
146		4KX1 RAM	 	CMOS/SOS	100149
MANUFACTURER		PART NUMBER		SPECIFICATION	
RCA	 	TCS146			-
LDC:	NO. OF F	NO. OF PARTS: 1 DATA	SOLNICE:	DATA SSERVE: RCA/AEROSPACE	REF.NO.: 11
ION ANGLE	ENERGY	RUNS	FLUENCE		
KR 30	168MEV	5V 1	• • • • • • • • • • • • • • • • • • •		
ERROR CROSS SECTION MAX MEAN	S SECTION MEAN	LATCH CRUSS SECTION MAX MEAN	SECT ION MEAN		
¥€1.8E-4	#1.8F=4	!		,	

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REMARKS: CHANNEL DXIDE=850ANGSTROMS

* ERROR CROSS SEC. IN ERRORS/PARTICLE/CHIP, NOT PER BIT

****	TECHNOLOGY CMOS/SOS	SPECIFICATION	AEROSPACE REF.NO.: 11		
6. IB 35Vd	FUNCTION TECH	PART NUMBER SPEC	PARTS: 2 DATA SOURCE: RCA/AEROSPACE	BIAS RUNS FLUENCE	LATCH CROSS SECTION MAX MEAN
*	GENERIC PART NUMBER	MANUFACTURER	LDC: NO OF F	ION ANGLE ENERGY	MAX MEAN

* ERROR CROSS SEC. IN ERRORS/PARTICLE/CHIP, NOT PER BIT REMARKS: CHANNEL OXIDE=850ANGSTROMS

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REMARKS: CHANNEL DXIDE=850ANGSTROMS

* ERROR CROSS SEC. IN ERRORS/PARTICLE/CHIP, NOT PER BIT

RECORD 100058

TECHNOLOGY CMDS/SDS

FUNCTION 1K RAM

GENERIC PART NUMBER

150

SPECIFICATION

PART NUMBER

MANUFACTURER

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1	REF.NO.: 5						***************************************	RECORD	100059		‡ ; ; ; ; ; ; ; ; ; ; ; ; ; ; ; ; ; ; ;	REF.NO.: 5				
	DATA SOURCE: UPL (7/80)	CE	2.5E9	NOI N	N		***************************************	TECHNOLOGY	CMOS/SOS	SPECIFICATION		DATA SOURCE: UPL (7/80)	w.	2.5E9	NO	NL
TCS150	PARTS: 1 DATA SOUR	BIAS RUNS FLUENCE	-	LATCH CROSS SECTION MAX MEAN	1		*****************	FUNCTION	1K RAM	PART NUMBER	TCS150 (RAD HARD)	PARTS: 1 DATA SOURC	_	50 1 2	LATCH CROSS SECTION MAX MEAN	
	NO. OF P	ENERGY	56MEV	S SECTION MEAN	I W			NUMBER		 4 9 1 1 1		NO. OF P/	ENERGY	SGMEV	SECTION	
RCA	FDC:	ION ANGLE		ERROR CROSS SECTION MAX MEAN	N Z	REMARKS:	****	GENERIC PART NUMBER	150	MANUFACTURER	RCA	LDC:	ION ANGLE		ERROR CROSS SECTION MAX MEAN	

REMARKS:

1001	
SENERIC PART NUMBER	

RECORD 100077		REF.NO.: 6			
TECHNOLOGY	SPECIFICATION	DATA SOURCE: ROCKWELL/TIROSN RE	· 10		1
FUNCTION 1KX1 RAM	PART NUMBERCDP1321	-	BIAS RUNS FLUENCE	LATCH CROSS SECTION MAX MEAN	N
GENERIC PART NUMBER	MANUFACTURER 	LDC: NO. OF PARTS:	ION ANGLE ENERGY	ERROR CROSS SECTION MAX MEAN	Z

REMARKS:

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RECORD 100078	en en en en en en en en en en en en en e	(0		
!		REF.NO.: 6		
TECHNOLOGY CMDS	SPECIFICATION	DATA SOURCE: ROCKWELL/TIRDSN	ָוּ װְ	
 	; ; ; ;	SOURCE:	FLUENCE 1.4E5	SECTION MEAN
FUNCTION	PART NUMBER	-	RUNS	MAX MEAN MEAN NET NET NET NET NET NET NET NET NET NE
	PAR	NO. OF PARTS:	BIAS	. 1
NUMBER		NO. DI	ENERGY 152MEV	SECTION MEAN NEAN
GENERIC PART NUMBER	MANUFACTURER RCA		ANGLE 60	ERROR CROSS SECTION MAX MEAN NEAN NE
GENERI 1821	MANUFA	LDC:	ION	ERROR

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REMARKS:

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GENERIC PART NUMBER	BER	FUNCTION	TECHNOLOGY	RECORD
1821	1	1KX 1 RAM	CMOS	100079
MANUFACTURER	· · · · · · · · · · · · · · · · · · ·	PART NIMBER	SPECIFICATION	į
RCA	• 	CDP 1821		
LDC:	NO. OF PARTS:	φ	DATA SOURCE: ROCKWELL/TIROSN R	REF.NO.: 6
ION ANGLE EN	ENERGY 152MEV	BIAS RUNS FLUENCE	3E6	
ERROR CROSS SECTION MAX MEAN	ECT ION MEAN	S	2	
A 0.77 C	4 F-10	N N N N N N N N N N N N N N N N N N N	i i1	

PAGE B- 12 GENERIC PART NUMBER: 1821

REMARKS: 1 ERROR IN 1 PART IN 1 RUN

GENERIC PART NUMBER	NUMBER	FUNCTION	TECHNOLOGY	RECORD
1821	 	1KX1 RAM	CMDS	100080
MANUFACTURER		PART NUMBER	SPECIFICATION	
RCA	# # # 1	CDP1821		
LDC:	NO. OF PARTS:	N	DATA SOURCE: ROCKWELL/TIROSN REF.NO.: 6	و
ION ANGLE	ENERGY	RUNS	FLUENCE	
KR 75	152MEV		2.955	
ERROR CROSS SECTION	S SECTION	LATCH CROSS S	ECTION MFAN	

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REMARKS: BIAS LESS THAN MINIMUM SPEC OPERATING LEVEL

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PAGE B- 13

RECORD 100081		9 : . 6		
!	1	REF.NO.: 6		
TECHNOLOGY	BER SPECIFICATION	DATA SOURCE: ROCKWELL/TIROSN	RUNS FLUENCE	LATCH CROSS SECTION MAX MEAN
FUNCTION 1KX1 RAM	PART NUMBER CDP 1821	ARTS: 5	BIAS RU	LATCH
NUMBER	 	NO. OF PARTS:	ENERGY 152MEV	SECTION MEAN
IC PART	MANUFACTURER RCA		ANGLE 75	MAX MEAN TEROP CROSS SECTION TEROP
GENER 1821	MANUF	LDC:	X 10N	ERRC

REMARKS: BIAS LESS THAN MINIMUM SPEC OPERATING LEVEL

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TECHNOLOGY		SPECIFICATION		WELL/SAMSO REF.NO.: 7		
FUNCTION	1KX1 RAM CMDS	MBER	CDP1821	NO. OF PARTS: 3 DATA SOURCE: ROCKWELL/SAMSO	BIAS RUNS FLUENCE	MAX MEAN MAX MEAN MAX MEAN
GENERIC PART NUMBER	1821	MANUFACTURER	RCA	LDC: NO. OF	IDN ANGLE ENERGY	ERROR CROSS SECTION MAX MEAN

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REMARKS:

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GENERIC PART NUMBER	NUMBER	FUNCTION	TECHNOLOGY	
1821		1KX1 RAM	CMOS	RECORD
MANUFACTURER		PART NUMBER	SPECIFICATION	
RCA		CDP 1821		
rDc:	NO. OF	NO. OF PARTS: 1 DATA SOURCE:	DATA SOURCE: ROCKWELL/SAMSO REF.	REF.ND.: 7
TON ANGLE	ENERGY 150MEV	BIAS RUNS FLUENCE	. 1	
ERROR CROSS SECTION MAX MEAN	SECTION	LATCH CROSS SECTION MAX MEAN		
	NE		1	

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RECORD 100084		REF.NO.: 7		
	NO	•		
TECHNDLOGY	SPECIFICATION	DATA SOURCE: ROCKWELL/SAMSG	. 40	
		ATA SOURCE:	FLUENCE 1.6E6	LATCH CROSS SECTION MAX MEAN
FUNCTION TKX1 RAM	PART NUMBER CDP1821	ო.	BIAS RUNS	MAX
NUMBER		NO. OF PARTS:	ENERGY 150MEV	SECTION MEAN NEAN
GENERIC PART NUMBER	MANUFACTURER 	LDC:	ION ANGLE	ERROR CROSS SECTION MAX MEAN

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GENERIC PART NUMBER FUNCTION 1821 MANUFACTURER PART NUMBER CDP 1821 LDC: NO. OF PARTS: 4 DATA SOURCE: ROCKWELL/SAMSO REF.NO.: 7 ERROR CROSS SECTION MAX MEAN MAX MEAN MEAN MEAN MEAN MEAN PAGE B- 15 PAGE B- 15 PAGE B- 15 PAGE B- 15 PAGE B- 15 PAGE B- 15 PAGE B- 15 PAGE B- 15 PAGE B- 15 PAGE B- 15 TECHNOLOGY RECORD 100085 100085 100085 100085 100085 100085 100085 100085 100085 100085 100085 100085 100085 100085 100085 100085 100085 100085 100085 100085 100085 100085 100085 100085 100085 100085 100085 100085 100085 100085 100085 100085 100085 100085 100085 100085 100085 100085 100085 100085 100085 100085 100085 100085 100085 100085 100085 100085 100085 100085 100085 100085 100085 100085 100085 100085 100085 100085 100085 100085 100085 100085 100085 100085 100085 100085 100085 100085 100085 100085 100085 100085 100085 100085 100085 100085 100085 100085 100085 100085 100085 100085 100085 100085 100085 100085 100085 100085 100085 100085 100085 100085 100085 100085 100085 100085 100085 100085 100085 100085 100085 100085 100085 100085 100085 100085 100085 100085 100085 100085 100085 100085 100085 100085 100085 100085 100085 100085 100085 100085 100085 100085 100085 100085 100085 100085 100085 100085 100085 100085 100085 100085 100085 100085 100085 100085 100085 100085 100085 100085 100085 100085 100085 100085 100085 100085 100085 100085 100085 100085 100085 100085 100085 100085 100085 100085 100085 100085 100085 100085 100085 100085 100085 100085 100085 100085 100085 100085 100085 100085 100085 100085 100085 100085 100085 100085 100085 100085 100085 100085 100085 100085 100085 100085 100085 100085 100085 100085 100085 100085 100085 100085 100085 100085 100085 100085 100085 100085 100085 100085 100085 100085 100085 100085 100085 100085 100085 100085 100085 100085 100085 100085 100085	•	PAGE B- 15 ************************************	100085	_		
GENERIC PART NUMBER 1821 MANUFACTURER RCA LDC: ND. OF P. ION ANGLE ENERGY KR 75 150MEV ERROR CROSS SECTION MAX MEAN 7.E-9 7 E-10		FUNCTION TECHNOLOGY JKX1 RAM GMOS	MBER	4 DATA SOURCE: ROCKWELL/SAMSD	RUNS FLUEN	LATCH CROSS SECTION MAX MEAN
** ** ** ** ** ** ** ** ** ** ** ** **	***************************************		MANUFACTURER		ANGLE ENERGY	ERROR CROSS SECTION MAX MEAN 7.E-9 7.E-10

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	TECHNOLOGY	SPECIFICATION	DATA SOURCE: ROCKWELL/SAMSO		······································
			TA SOURCE;	FLUENCE 1.1E7	S SECTION MEAN
	FUNCTION 1KX1 RAM	PART NUMBER	NO. OF PARTS: 3 DA	BIAS RUNS	MAX MEAN MEAN NE NE NE NE NE NE NE NE
	NUMBER		NO. 0F	ENERGY 150MEV	SECTION MEAN 3.E-9
GENEDIC DAR	1821	MANUFACTURER 	.500	ION ANGLE	ERROR CROSS SECTION MAX MEAN

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GENER	GENERIC PART NUMBER	NUMBER	FUNCTION		TECHNOLOGY	RECORD	
1822			256X4 RAM	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	CMDS	100087	
MANUFA	MANUFACTURER		PART NUMBER	œ	SPECIFICATION		
RCA		 	CDP 1822	1 1 1 1 1 1 1		ļ f	
rpc:		NO. 0F	NO. OF PARTS: 1	DATA SOURCE:	DATA SOURCE: ROCKWELL/SAMSO	REF.NO.: 7	
NOI	ANGLE	ENERGY	BIAS RUNS	S FLUENCE	;		
¥	0	152MEV	2Λ	2 2.4E5	E5		
ERROR	ERROR CROSS SECTION MAX MEAN	SECTION MEAN	į	MAX MEAN			
		Z		Z) 1		

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GENERIC PART NUMBER FUNC 1822 256X MANUFACTURER PART RCA CDP 18 LDC: NO. OF PARTS:	1 RAM NUMBER 2 DATA SOURCE:	SPECIFICATION
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TECHNOLOGY RECORD CMDS 100089	SPECIFICATION
FUNCTION	PART NUMBER
GENERIC PART NUMBER	MANUFACTURER

REF.NO.: 7 DATA SOURCE: ROCKWELL/SAMSO N NO. OF PARTS: LDC:

3.4E6 FLUENCE RUNS BIAS 5 ENERGY 152MEV ANGLE X | ON

LATCH CROSS SECTION MAX MEAN ź ERROR CROSS SECTION MAX MEAN Ä

REMARKS:

GENERIC PART NUMBER	NUMBER	FUNCTION	TECHNOLOGY	RECORD
1822		256X4 RAM	CMDS	100090
MANUFACTURER		PART NUMBER	SPECIFICATION	
RCA	i i i i i	CDP 1822		
rpc:	NO. OF 1	NO. OF PARTS: 2 DATA SOURCE:	DATA SOURCE: ROCKWELL/SAMSO	REF.NO.: 7
ION ANGLE	ENERGY 152MEV	BIAS RUNS FLUENCE	. .	
ERROR CROSS SECTION MAX MEAN	SECTION	LATCH CROSS SECTION		

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PART	GENERIC PART NUMBER	FUNCTION	TECHNOLOGY	
		32X8 RAM	CMOS	! ! ! ! ! ! ! ! ! ! ! ! ! ! ! ! ! ! ! !
MANUFACTURER		PART NUMBER	SPECIFICATION	
	 	CDP 1824		!
	NO. OF PARTS:	PARTS: 4 DATA SOURCE: JPL (2/82)	JPL (2/82)	REF.NO.: 12
ANGLE	ENERGY	BIAS RUNS FLUENCE		
0	595MEV	100 7 2.5E9	E9 .	
ROSS	ERROR CROSS SECTION MAX MEAN	LATCH CROSS SECTION MAX MEAN		
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REMARKS:

GENERIC PART NUMBER	NUMBER	FUNCTION	TECHNOLOGY	RECORD
1824	; ; ; ;	32X8 RAM	CMOS	100163
MANUFACTURER		PART NUMBER	SPECIFICATION	
RCA		CDP 1824		
rpc:	NO. OF PARTS:	PARTS: 2 DATA SOURCE: JPL (2/82)	JPL (2/82) REF.NO.: 12	12
ION ANGLE	ENERCY	BIAS RUNS		
O +d	160MEV	10V 3 1.0E10	10	
ERROR CROSS SECTION MAX MEAN	SECTION	LATCH CROSS SECTION MAX MEAN		
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GENERIC PART NUMBER	NUMBER	FUNCTION	2	1	TECHNOLOGY) !	RECORD
		4KX 1 RAM	5		NMOS		100112
MANUFACTURER		PART NUMBER	WBER		SPECIFICATION		
INTEL	 	M2147		 		•	
	NO. OF	ND. OF PARTS: 2		JURCE:	DATA SOURCE: RI/SAMSO	REF.NO.: 9	
ANGLE	ENERGY	BIAS		FLUENCE			
o	*		14	† ! ! ! !	1		
ERROR CROSS SECTION MAX MEAN	SECTION	1	LATCH CROSS SECTION MAX MEAN	ECT ION MEAN			
	2.1E-6			ž		•	

REMARKS: ENERGY= 14MEV TO 115MEV: STD. DEV.= 7.1E-7

GENERIC PART NUMBER	NUMBER	FUNCTION	TECHNOLOGY	RECORD
		256X4 RAM	CMOS	100034
MANUFACTURER		PART NUMBER	SPECIFICATION	
	1 1 1 1 1	TCC244	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
	NO OF PARTS:	ARTS: 1 DATA SQURCE: JPL (1/81)	JPL (1/81)	REF.NO.: 2
ANGLE	ENERGY	_		
0	120MEV	5V 1 4.2E5	: IO	
MAX MEAN	SECTION	LATCH CROSS SECTION MAX MEAN		
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SENERIC PART NUMBER	IUMBER	FUNCTION	TECHNOLOGY	>	RECORD
244	! ! ! !	256X4 RAM	CMOS		100035
MANUFACTURER		PART NUMBER	SPECIFICATION	NOIT	
RCA	t 1 1 1 1	TCC244			
FDC:	NO. OF PARTS:	-	DATA SOURCE: JPL (1/81)) REF.NO.: 2	8
ION ANGLE	ENERGY		FLUENCE		
KR 50	120MEV	5V 1	2.955		
ERROR CROSS SECTION MAX MEAN	SECTION		MAX MEAN		
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REMARKS:

GENERIC PART NUMBER	_	TECHNOLOGY	RECORD
244	256X4 RAM	CMOS	100036
MANUFACTURER	PART NUMBER	SPECIFICATION	
RCA	TCC244		
LDC: NO.	NO. OF PARTS: 1 DATA S	DATA SOURCE: UPL (1/81)	REF.NO.: 2
10N ANGLE ENE	ENERGY BIAS RUNS FL	FLUENCE 3.0E5	
RROR CROSS	TION LATCH CROSS SECTION	ECTION	

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REMARKS:

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GENERIC PART NUMBER: 244 ***********************************		- 7
GENERIC PART NUMBER: 244		4
GENERIC PART NUMBER: 244	-	
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GENERIC PART NUMBER: 2	- 23.	
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GENERIC PART NUMBER	NUMBER	FUNCTION	TECHNOLOGY	
244	† 	256X4 RAM	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	
MANUFACTURER		PART NUMBER	SPECIFICATION	
RCA	# ! ! ! !	TCC244		
LDC:	NO. OF PARTS:	•••	DATA SQURCE: UPL (7/80) REF.NO.: 4	
ION ANGLE	ENERGY	BIAS RUNS FLUENCE	UENCE	
•	130MEV	5V 2	5.6E9	
ERROR CROSS SECTION MAX MEAN	S SECTION MEAN	LATCH CROSS S MAX	TION AN	
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TECHNOLOGY RECORD	SPECIFICATION	JPL (7/80) REF.ND.; 5	! 6 ;	
FUNCTION 256X4 RAM	PART NUMBER	PARTS: 1 DATA SGURCE: JPL (7/80)	BIAS RUNS FLUENCE	LATCH CROSS SECTION
NUMBER	1	NO. OF PARTS:	ENERGY 36MEV	SECTION
GENERIC PART NUMBER	MANUFACTURER RCA	rpc:	ION ANGLE	ERROR CROSS SECTION

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GENERIC PART NUMBER	NUMBER	FUNCTION		TECHNOLOGY	RECORD
244	1 6 1 1 1	256X4 RAM		CMOS	100061
MANUFACTURER		PART NUMBER	SER	SPECIFICATION	
RCA	 - - - - 	TCC244	# 1		
rpc:	NO. 0F	NO. OF PARTS: 1	1 DATA SOURCE: UPL (7/80)		REF.NO.: 5
ION ANGLE	ENERGY	BIAS RU	RUNS FLUENCE		
O +d	SGMEV		1 2.5E9	. 6	
ERROR CROSS SECTION MAX MEAN	SECTION	}	ທີ່		
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GENERIC PART NUMBER	NUMBER	FUNCTION	TECHNOLOGY	RECORD
-, -,-	! ! ! !	COUNTER	CMOS	100132
MANUFACTURER		PART NUMBER	SPECIFICATION	
FAIRCHILD	 	40160		
rpc:	NO. OF PARTS:	PARTS: 1 DATA SOURCE: MIT/JPL	MIT/JPL REF.NO.: 10	10
15N ANGLE	ENERGY 120MEV	BIAS RUNS FLUENCE		
ERROR CROSS SECTION MAX MEAN	SECTION	LATCH CROSS SECTION MAX MEAN	•	

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TECHNOLOGY	CMDS 100133	SPECIFICATION		IT/JPL REF.ND.: 10		
	COUNTER	UMBER	40160	ARTS: 2 DATA SOURCE: MIT/JPL	BIAS RUNS FLUENCE	LATCH CROSS SECTION MAX MEAN
GENERIC PART NUMBER	40160	MANUFACTURER	FAIRCHILD	LDC: NO. OF PARTS:	ION ANGLE ENERGY	ERROR CROSS SECTION MAX MEAN

GENERIC PART NUMBER	ART	NUMBER	FUNCTION	NOI		TECHNOLOGY	œ	RECORD
4018	r r		COUNTER	ER]	CMOS		100025
MANUFACTURER	RER		PART	PART NUMBER		SPECIFICATION		
RCA	 	i - - - -	CD4018		1		!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!	
rDC:		NO. OF PARTS:	PARTS:	1 DAT	A SOURCE:	DATA SOURCE: JPL (1/81)	REF.NO.: 2	
ION ANGLE	=	ENERGY	BIAS	RUNS	FLUENCE			
AR	09	150MEV	100	ļi	1.368	: 60		
ERROR CROSS SECTION MAX MEAN	30SS	SECTION		TCH CROSS	LATCH CROSS SECTION MAX MEAN			

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PAGE B- 24

GENERIC DART MINES		(
4018	NUMBER	FUNCTION	TECHNOLOGY	RECORD
MANUFACTURER 		PART NUMBER CD4018	SPECIFICATION	
LDC:	NO. OF PARTS:	PARTS: 3 DATA SOURCE: UPL (1/81)	JPL (1/81) REF.ND.: 2	
ION ANGLE	ENERGY 120MEV	BIAS RUNS FLUENCE		
ERROR CROSS SECTION MAX MEAN	SECTION	ר		
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REMARKS:

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RECORD 100113		REF.ND.: 9		
TECHNOLOGY NMDS	SPECIFICATION	RI/SAMSO		
FUNCTION 4KX1 RAM	PART NUMBER TMS4044	ARTS: 1 DATA SOURCE: RI/SAMSO	BIAS RUNS FLUENCE	LATCH CROSS SECTION MAX MEAN
GENERIC PART NUMBER	MANUFACTURERTEXAS INSTRUMENTS	LDC: NO. OF PARTS:	ION ANGLE ENERGY	ERROR CROSS SECTION MAX MEAN77.1E-6

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REMARKS: ENERGY= 46MEV TO 115MEV: STD. DEV. = 3.4E-6

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TECHNOLOGY	SPECIFICATION	JPL (1/81) REF.NO.: 2	מו		
FUNCTION HEX INVERTER	PART NUMBER CD4049	ARTS: 1 DATA SOURCE: UPL (1/81)	BIAS RUNS FLUENCE	LATCH CROSS SECTI MAX MEAN	Z
GENERIC PART NUMBER 4049	MANUFACTURER RCA	LDC: NO. OF PARTS:	ION ANGLE ENERGY	ERROR CROSS SECTION MAX MEAN	T

RECORD	100021			0.; 2		
TECHNOLOGY	CMDS	SPECIFICATION		JPL (1/81) REF.NO.; 2	! 5-	
FUNCTION	HEX INVERTER	PART NUMBER	CD4049	ND. OF PARTS: 2 DATA SOURCE: UPL (1/81)	BIAS RUNS FLUENCE	LATCH CROSS SECTION MAX MEAN
UMBER			! ! ! !	NO. OF P	ENERGY 150MEV	SECTION MEAN
GENERIC PART NUMBER	4049	MANUFACTURER	RCA	rpc:	ION ANGLE	ERROR CROSS SECTION MAX MEAN

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REMARKS:

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	100022	SPECIFICATION		/81) REF.NO.: 2		
FUNCTION	HEX INVERTER CMDS	MBER	CD4049	ARTS: 1 DATA SOURCE: JPL (1/81)	BIAS RUNS FLUENCE	LATCH CROSS SECTION MAX MEAN
GENERIC PART NUMBER	4049	MANUFACTURER	RCA	LDC: NO. OF PARTS:	IDN ANGLE ENERGY	ERROR CROSS SECTION MAX MEAN

REMARKS:

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:	TITLE LAKE NOMBEK	FUNCTION	TECHNOLOGY	RECORD
		HEX INVERTER	CMDS	100023
MANUFACTURER		PART NUMBER	SPECIFICATION	
!	1	CD4049		
	NO. OF PARTS:	PARTS: 2 DATA SOURCE: UPL (1/81)	JPL (1/81) REF.NO.: 2	8
ANGLE 60	ENERGY 120MEV	BIAS RUNS FLUENCE	! 89 .	
0.55	ERROR CROSS SECTION MAX MEAN	LATCH CROSS SECTION		

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GENERIC PART NUMBER	NUMBER	FUNCTION	TECHNOLOGY	RECORD
4049		HEX INVERTER	CMDS	100024
MANUFACTURER	 	PART NUMBER	SPECIFICATION	
RCA		CD4049		
rpc:	NO. OF PARTS:	PARTS: 1 DATA SOURCE: JPL (1/81)	JPL (1/81) REF.NO.: 2	7
ION ANGLE	ENERGY 120MEV	BIAS RUNS FLUENCE	1.6	
ERROR CROSS SECTION MAX MEAN	SECTION	LATCH CROSS SECTION MAX MEAN		
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GENERIC PART NUMBER	NUMBER	FUNCTION	TECHNOLOGY	RECORD
		QUAD-2INPUT AND GATE	CMOS	100027
MANUFACTURER	 	PART NUMBER	SPECIFICATION	
RCA		CD4081		
rpc:	NO. 0F	NO. OF PARTS: 1 DATA SOURCE: UPL (1/81)	UPL (1/81) REF.ND.: 2	
ION ANGLE	ENERGY 150MEV	BIAS RUNS FLUENCE		
ERROR CROSS SECTION MAX MEAN	SECTION	LATCH CROSS SECTION MAX MEAN		
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GENERIC PART NUMBER: 4081	*****************	

GENERIC PART NUMBER	VUMBER		TECHNOLOGY	RECORD
4081	T 4 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6	QUAD-21NPUT AND GATE		100028
MANUFACTURER		PART NUMBER	SPECIFICATION	
RCA		CD4081		
FDC:	NO. OF PARTS:	ARTS: 1 DATA SOURCE: JPL (1/81)		REF.NO.: 2
ION ANGLE	ENERGY	BIAS RUNS FLUENCE	}	
	120MEV	8	SE7	
ERROR CROSS SECTION MAX MEAN	SECTION	LATCH CROSS SECTION MAX MEAN		
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4104 MANUFACTURER MOSTEK	4KX1 RAM DART NIMBER			
1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	PART NIMBER		SOMN	100114
1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	111111111111111111111111111111111111111		SPECIFICATION	
	MK4104	1 1 1		
LDC: NO. OF PARTS:	ARTS: 1 DATA SOURCE: RI/SAMSO	SOURCE:	RI/SAMSO	REF.NO.: 9
ENERGY	RUNS	FLUENCE		
AR 0 105MEV	5 AS			
ERROR CROSS SECTION MAX MEAN	LATCH CROSS SECTION MAX MEAN	SECT ION MEAN		

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REMARKS: STD. DEV. = 4.1E-8

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RECORD 100121			REF.ND.: 10		
TECHNOLOGY TTL	Specietoatron	NOTIFICATION			
FUNCTION DUAL UK FLIP-FLOP	PART NUMBER	53LS73	ARTS: 1 DATA SOURCE: MIT/JPL	BIAS RUNS FLUENCE	LATCH CROSS SECTION MAX MEAN
GENERIC PART NUMBER	MANUFACTURER	SIGNETICS	LDC: NO. OF PARTS:	ION ANGLE ENERGY	ERROR CROSS SECTION MAX MEAN

* ERROR CROSS SEC. IN ERRORS/PARTICLE/CHIP, NOT PER BIT REMARKS:

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GENERIC PART NUMBER	NUMBER	FUNCTION	TECHNOLOGY	! ! !
54LS95		4BIT SHIFT REGISTER	17.	RECORD
MANUFACTURER SIGNETICS		PART NUMBER	SPECIFICATION	
	NO. 0F	NO. OF PARTS: 2 DATA SOURCE: MIT/JPL	MIT/JPL REF.ND.: 10	ţ.
ANGLE	ENERGY 120MEV	BIAS RUNS FLUENCE		
ERROR CROSS SECTION MAX MEAN	SECTION	LATCH CRUSS SECTION MAX MEAN		
	# 6.E-6	N	4	

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> * ERROR CROSS SEC. IN ERRORS/PARTICLE/CHIP, NOT PER BIT REMARKS:

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GENERIC PART NUMBER	UMBER		TECHNOLOGY	RECORD
541.78		DUAL JK FLIP-FLOP	111	100116
MANUFACTURER		PART NUMBER	SPECIFICATION	
NATIONAL	 	DM54L78		
LDC:	NO. OF PARTS:	PARTS: 2 DATA SOURCE: MIT/JPL	MIT/JPL REF.NO.: 10	10
ION ANGLE	ENERGY	BIAS RUNS FLUENCE		
KR 0	120MEV	5V 4		
ERROR CROSS SECTION MAX MEAN	SECTION	LATCH CROSS SECTION MAX MEAN		
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REMARKS:

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541.78		DUAL UK FLIP-FLOP	ŢĪĹ	100117
MANUFACTURER		PART NUMBER	SPECIFICATION	
NATIONAL	! ! ! !	DM54L78		!
LDC:	NO. OF PARTS:	ARTS: 3 DATA SOURCE: MIT/JPL	: MIT/JPL	REF.NO.: 10
ION ANGLE	ENERGY	RUNS		
KR 65	120MEV	9 AS	1	
ERROR CROSS SECTION MAX MEAN	SECTION	LATCH CROSS SECTION MAX MEAN	z	

REMARKS:

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ENERIC PART NUMBER.	
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	100127		~ - .	REF.ND.: 10			
TECHNOLOGY	11.	SPECIFICATION					
FUNCTION	DUAL UK FLIP-FLOP	PART NUMBER	5473	PARTS: 1 DATA SOURCE: MIT/JPL	BIAS RUNS FLUENCE	LATCH CROSS SECTION MAX MEAN	N
GENERIC PART NUMBER	5473	MANUFACTURER	SIGNETICS	LDC: NO. OF PARTS:	ION ANGLE ENERGY	ERROR CROSS SECTION MAX MEAN	W

TECHNOLOGY P TTL 100128	DATA SOURCE: MIT/JPL REF.ND.: 10	FLUENCE	ECTION
FUNCTION DUAL JK FLIP-FLOP PART NUMBER 5473	-	BIAS RUNS FLU	LATCH CROSS SECTION MAX MEAN
GENERIC PART NUMBER 5473 MANUFACTURER SIGNETICS	LDC: NO. GF PARTS:	ION ANGLE ENERGY	ERROR CROSS SECTION MAX MEAN

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REMARKS:

GENERIC PART NUMBER	NUMBER	FUNCTION 4BIT SHIFT REGISTER	TECHNOLOGY TTL	RECORD 100126
MANUFACTURER	 	PART NUMBER	SPECIFICATION	
SIGNETICS	*.	5495	\$ 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	
rpc:	NO. OF PARTS:	ARTS: 1 DATA SOURCE: MIT/JPL	MIT/JPL REF.ND.: 10	10
ION ANGLE	ENERGY	BIAS RUNS FLUENCE	,	
K	120MEV	5V 2		
ERROR CROSS SECTION MAX MEAN	SECTION	LATCH CROSS SECTION MAX MEAN		

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GENERIC PART NUMBER	NUMBER	FUNCTION	TECHNOLOGY	RECORD
6504	 	4KX i RAM	CMDS	100062
MANUFACTURER		PART NUMBER	SPECIFICATION	
HARRIS) 	HA6504		
rpc:	NO. OF 1	NO. OF PARTS: 1 DATA SOURCE: JPL (7/80)	JPL (7/80) REF.ND.: 5	rs S
ION ANGLE	ENERGY			
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ERROR CROSS SECTION MAX MEAN	SECTION MEAN	LATCH CROSS S MAX		
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SENERIC PART NUMBER: 6508	ž
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GENERIC PART NUMBER	ABER		TECHNOLOGY	00000
6508	 	1KX1 RAM	CMDS	100001
MANUFACTURER		UMBER	SPECIFICATION	
HARRIS	! ! !	HM6508		
LDC: NO	. OF !	NO. OF PARTS: 5 DATA SOURCE: R	DATA SOURCE: RI/TIROSN(6/80) REF.ND.: 1	•
CR O 15	ENERGY 152MEV	BIAS RUNS FLUENCE		
ERROR CROSS SECTION MAX MEAN	ECT ION MEAN	LATCH CROSS SECTION MAX MEAN		

REMARKS: MANY ERRORS: LATCHUP IN ALL PARTS IN ALL RUNS

9.0E-4

GENERIC PART NUMBER	UMBER	FUNCTION	TECHNOLOGY	RECORD
6508		1KX1 RAM	CMOS	100002
MANUFACTURER		PART NUMBER	SPECIFICATION	
HARRIS	t f ! !	HM6508		
-DC:	NO. OF PARTS:	4	DATA SOURCE: RI/TIROSN(6/80) REF.NO.;	-
IDN ANGLE	ENERGY 40MEV	RIAS RUNS FLUENCE	. 99	
)SS	SECTION	LATCH CROSS SECTION MAX MEAN	ī	
1.2E-6	2.0E-7	N		

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		**************************************	GENERIC PART NUMBER	6508 MANUFACTURER	NO. OF	ION ANGLE ENERGY	ERROR CROSS SECT
		CENERIC PART NUMBER:	********************				

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	TECHNOLOGY	i i i	SPECIFICATION	PEF.ND.: 1	נופני אין	FLUENCE 5.6E5	MEAN MEAN NL
		ER FUNCTION	PART NUMBER	HM6508	NO. OF PARTS: 2 DATA SOUN	ENERGY BIAS RUNS FLUENCE	MAX MAX
"一个子说的是安全的一种的一种的一种的一种的一种的一种的一种的一种的一种的一种的一种的一种的一种的		GENERIC PART NUMBER	6508 MANIJFACTURER	HARRIS	LDC: ND	ION ANGLE EN	ERROR CROSS SECTION MAX MEAN
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RECORD 100005

TECHNOLDGY

FUNCTION 1KX 1 RAM

GENERIC PART NUMBER

REF.NO.: 1

DATA SOURCE: RI/TIROSN(6/80)

NO. OF PARTS: 4

LDC:

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RUNS

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ANGLE

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32MEV ENERGY

LATCH CROSS SECTION MAX MEAN

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1.5E-7

REMARKS:

ERROR CROSS SECTION MAX MEAN

SPECIFICATION

PART NUMBER

MANUFACTURER

HARRIS

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GENERIC PART NUMBER		FUNCTION		TECHNOLOGY	α.	RECORD
6508	1KX1	1KX1 RAM	! !	CMOS		90000
MANUFACTURER	PART	PART NUMBER		SPECIFICATION		
HARRIS	HM6508	08	 			
LDC: NO.	NO. OF PARTS: 4		SOURCE:	DATA SOURCE: RI/TIROSN(6/80)	REF.NO.: 1	
ION ANGLE ENERGY	GY BIAS	RUNS	FLUENCE			
		=	2.9E5	, <u>1</u> , 0		
ERROR CROSS SECTION MAX MEAN		LATCH CROSS SECTION MAX MEAN	SECTION MEAN			

REMARKS: LATCHUP IN ALL PARTS IN 8 RUNS

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GENERIC PART NUMBER: 6508

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GENERIC PART NUMBER	NUMBER	FUNCTION	TECHNOLOGY	RECORD
6508		IKX1 RAM	CMDS	100001
MANUFACTURER		PART NUMBER	SPECIFICATION	
HARRIS	 	HM6508		
rpc:	NO. OF PARTS:	4	DATA SOURCE: RI/TIRGSN(6/80) REF.ND.:	+
ION ANGLE	ENERGY	BIAS RUNS FLUENCE		
AR 0	212MEV		ES	
ERROR CROSS SECTION MAX MEAN	SECTION	רא		
2.E-8	1.E-8		1	

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GENERIC PART NUMBER	NUMBER	FUNCTION	TECHNOLOGY	RECORD
6508		1KX1 RAM	CMOS	100008
MANUFACTURER		PART NUMBER	SPECIFICATION	
HARRIS	t 1 1 1	HM6508	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	
LDC:	NO. OF PARTS:	-	DATA SOURCE: RI/TIROSN(6/80) REF	REF.NG.: 1
ION ANGLE	ENERGY	-	FLUENCE	
AR 65	7.MEV	· -	1.765	
ERROR CROSS SECTION MAX MEAN	SECTION MEAN	LATCH CROSS S	ECTION	
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GENERIC PART NUMBER	NUMBER	FUNCTION	TECHNOLOGY	RECODA
6508	# # # # # #	TKX1 KAM	CMOS	100009
MANUFACTURER		PART NUMBER	SPECIFICATION	
HARRIS	 	HM6508		
rpc;	NO. OF PARTS:	• •	DATA SOURCE: RI/TIROSN(6/80) REF.NO.:	, .
ION ANGLE	ENERGY 	BIAS RUNS FLUENCE		
ERROR CROSS SECTION MAX MEAN	SECTION MEAN	LATCH CROSS SECTION MAX MEAN	•	
	N.	NL		

iv RECORD	100010	NOIL		(6/80) REF.ND.: 1		
FUNCTION TECHNOLOGY	1KX1 RAM CMDS	PART NUMBER SPECIFICATION	HM6508	ARTS: 1 DATA SOURCE: RI/TIROSN(6/80)	BIAS RUNS FLUENCE	LATCH CROSS SECTION MAX MEAN
GENERIC PART NUMBER	6508	MANUFACTURER	HARRIS	LDC: NO. OF PARTS:	ION ANGLE ENERGY	ERROR CROSS SECTION MAX MEAN

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GENERIC PART NUMBER	PART	NUMBER	FUNCT ION	7		TECHNOLOGY		RECORD	
6508	***	f † 1 1	1KX 1 RAM	 	1 1 1 1	CMOS	!	100011	
MANUFACTURER	TURER		PART NUMBER	MBER		SPECIFICATION			
HARRIS	1 	 - - -	HM6508] [] [i !		
:DC:		ND. OF PARTS:	ARTS: 1	DATA	SOURCE:	DATA SOURCE: RI/TIROSN(6/80)	REF.NO.:	-	
ION AP	ANGLE	ENERGY			FLUENCE				
	65	24MEV	. 25	- !	2.365	. ic			
FROR	ROR CROSS	ERROR CROSS SECTION MAX MEAN	LATCH	4 CROSS	MAX MEAN				
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6508		TECHNOLOGY	0GY	RECORD
	1KX1 RAM	CMOS		100012
MANUFACTURER	PART NUMBER	SPECIFICATION	CATION	
HARRIS	HMG508		1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	
LDC: NO. OF	NO. OF PARTS: 1 DATA	DATA SOURCE: RI/TIROSN(6/80)	SN(6/80) REF.ND.:	. •
	BIAS RUNS	FLUENCE		
AR 0 24MEV	5V 1	1.E6		
ERROR CROSS SECTION MAX MEAN	A LATCH CROSS SECTION MEAN	SECTION		

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GENERIC PART NUMBER: 6508 *************************	
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GENERIC PART NUMBER	JUMBER		TECHNOLOGY	RECORD
6508	; ; ; ;	1KX1 RAM	CMOS	100013
MANUFACTURER		UMBER	SPECIFICATION	
HARRIS	! ! ! !	HM6508		
TDC:	NO. OF P	NO. OF PARTS: 1 DATA SOURCE: R	DATA SOURCE: RI/TIROSN(6/80) REF.NO.: 1	-
ION ANGLE E	ENERGY 34MEV	BIAS RUNS FLUENCE	, w	
ERROR CROSS SECTION MAX MEAN	SECTION MEAN	LATCH CROSS S MAX		
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GENERIC PART NUMBER	NUMBER	FUNCTION		TECHNOLOGY	_	RECORD
6508		1KX1 RAM	1 ; { } 1 1	CMDS	1 1	100014
MANUFACTURER		PART NUMBER		SPECIFICATION		
HARRIS		HM6508	 		:	
rpc:	NO. OF	NO. OF PARTS: 2 DA	TA SOURCE:	DATA SOURCE: RI/TIROSN(6/80)	REF.NO.: 1	
ION ANGLE	ENERGY	BIAS	FLUENCE			
AR 60	4 IMEV	5V 2	6.454	1 4 2		
ERROR CROSS SECTION	SECTION	LATCH CROSS SECTION	SS SECTION			

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GENERIC PART NUMBER	NUMBER	FUNCTION	TECHNOLOGY	RECORD
6508	-	1KX1 RAM	CMCS	100015
MANUFACTURER		PART NUMBER	SPECIFICATION	
HARRIS	 	HM6508		!
FDC:	NO. 0F	NO. OF PARTS: 1 CATA	DATA SOURCE: RI/TIROSN(6/80)	REF.NO.: 1
ION ANGLE	ENERGY		FLUENCE	
	4 1 MEV		6.3E4	
ERROR CROSS SECTION MAX MEAN	SECTION	LATCH C	SECTION MEAN	
7.E-7	7.E-7		N	

ACTURER PART NUMBER S HM6508 NO. OF PARTS: 4 DATA SOURCE: PARTS: 4 DATA SOURCE: PARTS: 4 BATA SOURCE: PARTS: 5 4 B.BEE OR CROSS SECTION LATCH CROSS SECTION AX MEAN MAX MEAN	GENERIC PART NUMBER	PART	NUMBER	FUNCTION	TECHNOLOGY	RE	RECORD
ANGLE ENERGY BIAS RUNS FLUENCE O 45MEV 5 4 8.8E5 OR CROSS SECTION LATCH CROSS SECTION MAX MEAN MEAN MAX MEAN	6508			1KX1 RAM	CMDS	10	0016
ANGLE ENERGY BIAS RUNS FLUENCE O 45MEV 5 4 8.8E5 OOR CROSS SECTION LATCH CROSS SECTION MAX MEAN	MANUFAC	TURER		PART NUMBER	SPECIFICATION		
ANGLE ENERGY BIAS RUNS FLUENCE O 45MEV 5 4 8.8E5 ROR CROSS SECTION LATCH CROSS SECTION MAX MEAN MAX MEAN	HARRIS] 	HM6508	, 1	! !	
ANGLE ENERGY BIAS RUNS FLUEN O 45MEV 5 4 OOR CROSS SECTION LATCH CROSS SECTION LATCH CROSS SECTION LATCH CROSS SECTION LATCH CROSS SECTION LATCH CROSS SECTION LATCH CROSS SECTION LATCH CROSS SECTION LATCH CROSS SECTION LATCH CROSS SECTION LATCH CROSS SECTION LATCH CROSS SECTION LATCH CROSS SECTION LATCH CROSS SECTION LATCH CROSS SECTION LATCH CROSS SECTION MAX MEAN	rpc:		NO. 0F	PARTS: 4 DATA SOURCE	: RI/TIRUSN(6/80)	REF.NO.: 1	
O 45MEV 5 4 ERROR CROSS SECTION LATCH CROSS SECT MAX MEAN MAX MEAN		NGLE	ENERGY	BIAS RUNS F			
	·	0	45MEV	4	8E5		
	ERROR	CROSS	SECTION MEAN		z		

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REMARKS:

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GENERIC PART NUMBER	NUMBER	FUNCTION	TECHNOLOGY	סביטם
6508	1	1KX1 RAM	CMOS	100017
MANUFACTURER		PART NUMBER	SPECIFICATION	
HARRIS	1	HM6508		
LDC:	NO. OF PARTS:	-	DATA SOURCE: RI/TIROSN(6/80) REF.NO.: 1	
ION ANGLE	ENERGY	RUNS		
AR 0	67MEV	5v † 9.2E5	 E5	
ERROR CROSS SECTION MAX MEAN	SECTION	LATCH CROSS SECTION MAX MEAN		
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GENERIC PART NUMBER	NUMBER	FUNCTION		TECHNOLOGY	α	RECORD
6508		1KX1 RAM		CMOS	1	100018
MANUFACTURER		PART NUMBER	S	SPECIFICATION		
HARRIS	 	HM6508			1 1 1	
r.DC:	NO. OF PARTS:	8	SOURCE: R	DATA SOURCE: RI/TIROSN(6/80)	REF.NO.: 1	
ION ANGLE	ENERGY		FLUENCE			
	212MEV	5V 3	1.2E4			
ERROR CROSS SECTION MAX MEAN	SECTION	LAT	SECTION MEAN			
2.E-5	2.E-5	2.E-3	7.E-4			

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REMARKS: LATCHUP IN ALL PARTS IN ALL RUNS

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GENERIC PART NUMBER	NUMBER	FUNTION	TECHNOLOGY	RECIDEN
6508	! ! ! ! !	IKK	CMOS	100019
MANUFACTURER		PART NUMBER	SPECIFICATION	
HARRIS	! ! !	HM6508		
rpc:	NO. OF	ND. OF PARTS: 3 DATA SOURCE: R	DATA SQURCE: RI/TIROSN(6/80) REF.NO.:	-
ION ANGLE	ENERGY 212MEV	BIAS RUNS FLUENCE		
ERROR CROSS SECTION MAX MEAN	SECTION	LATCH CROSS SECTION MAX MEAN		
3.E-5	2.E-5			

REMARKS: LATCHUP IN ALL PARTS IN ALL RUNS

GENERIC PART NUMBER	UMBER	FUNCTION	TECHNOLOGY	מפט
6508	 	1KX1 RAM	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	100029
MANUFACTURER		PART NUMBER	SPECIFICATION	
HARRIS		HA6508RH		
rpc:	NO. OF F	NO. OF PARTS: 1 DATA SOURCE: UPL (1/81)	JPL (1/81) REF.NO.: 2	
ION ANGLE E	ENERGY 1 120MEV	BIAS RUNS FLUENCE	; 1	
ERROR CROSS SECTION MAX MEAN	SECTION MEAN	LATCH CROSS SECTION MAX MEAN		
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REMARKS: PROTOTYPE RADIATION HARD PROCESS

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GENERIC PART NUMBER	FUNCTION	TECHNOLOGY	RECORD
6508	1KX1 RAM	CMDS	100030
MANUFACTURER	PART NUMBER	SPECIFICATION	
HARRIS	HA6508	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	
LDC: NO. OF PARTS:	PARTS: 1 DATA SOURCE: UPL (1/81)	JPL (1/81) REF.NO.: 2	-
ION ANGLE ENERGY	BIAS RUNS FLUENCE		
0	5V 2 3.6E5	ES	
ERROR CROSS SECTION MAX MEAN	LATCH CROSS SECTION MAX MEAN		
E C	IN I		
REMARKS: PROTCIVPE RADIATION HARD PROCESS	DIATION HARD PROCESS		
***************************************	*******	**************************************	***
GENERIC PART NUMBER	FUNCTION	TECHNOLOGY	RECORD
6508	1KX1 RAM	CMOS	100063
MANUFACTURER	PART NUMBER	SPECIFICATION	
HARRIS	HM6508		
LDC: NO, OF P	PARTS: 1 DATA SOURCE: JPL (7/80)	JPL (7/80) REF.NO.: 5	
ION ANGLE ENERGY	BIAS RUNS FLUENCE	! 00	

REMARKS:

LATCH CROSS SECTION MAX MEAN

ERROR CROSS SECTION MAX MEAN

	PAGE B- 44

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GENERIC PART NUMBER: 6508	***************************************

GENERIC PART NUMBER	NUMBER		TECHNOLOGY	RECORD
6508	 	1KX1 RAM CMDS	; ; ; ; ; ; ; ;	100064
MANUFACTURER		UMBER	SPECIFICATION	
HARRIS	 	HM6508	\$ 1	
; DQT	NO. OF P	NO. OF PARTS: 2 DATA SQURCE: JPL (7/80)	(7/80) REF.NO.: 5	
ION ANGLE	ENERGY 56MEV	BIAS RUNS FLUENCE		
ERROR CROSS SECTION MAX MEAN	SECTION MEAN	\S		
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	STATE TAX NOMBER	FUNCTION	z		TECHNOLOGY		RECARA
6508	i i i t	1KX 1 RAM	Σ.	1	CMOS	!	100065
MANUFACTURER		PART NUMBER	MBER		SPECIFICATION		
HARRIS	 	HS6508RH	I	1		 	
LDC:	NO. OF PARTS:	ARTS: 1	DATA	SOURCE:	DATA SOURCE: JPL (7/80)	REF.NO.: 5	
ION ANGLE EN	ENERGY	BIAS	RUNS	FLUENCE			
P+ 0 56	SGMEV	20	-	2.5E9	. 6		
ERROR CROSS SECTION MAX MEAN	ECT ION MEAN		H CROSS	LATCH CROSS SECTION MAX MEAN			

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RECORD 100159

TECHNOLOGY

FUNCTION 1KX1 RAM

GENERIC PART NUMBER

6508

REF, NO.: 12

NO. OF PARTS: 4 DATA SOURCE: JPL (2/82)

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LATCH CROSS SECTION MAX MEAN

ERROR CROSS SECTION
MAX MEAN

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SPECIFICATION

PART NUMBER HM1-6508-2

MANUFACTURER HARRIS

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GENERIC	GENERIC PART NUMBER	FUNCTION	>-	RECORD
6508	grift to	1KX1 RAM	CMDS	100150
MANUFACTURER	TURER	PART NUMBER	SPECIFICATION	
HARRIS		HS6508RH-2		
LDC:	NO, OF	PARTS: 4 DATA SOURCE: UPL (2/82)		REF.NO.: 12
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	O 595MEV	10V 4 1.8	1.869	
ERROF	ERROR CROSS SECTION	LATCH CROSS SECTION	7	

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NUMBER:	****
GENERIC PART	*****

GENERIC PART NUMBER	UMBER	FUNCTION	TECHNOLOGY	RECORD
6508		1KX1 RAM	CMOS	100164
MANUFACTURER		PART NUMBER	SPECIFICATION	
HARRIS	† 	HM1-6508-2	; ; ; ;	A
rpc:	NO. OF PARTS: 2		DATA SOURCE: JPL (2/82) REF	REF.NO.: 12
ION ANGLE	ENERGY 160MEV	BIAS RUNS FLUENCE	ICE 8.5E9	
ERROR CROSS SECTION MAX MEAN	SECTION	LATCH CROSS SECTION MAX MEAN		
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GENERIC PART NUMBER	NUMBER	FUNCTION	NO		TECHNOLOGY	Ω.	RECORD
6508		1KX 1 RAM	AM		CMOS	1	100165
MANUFACTURER		PART NUMBER	JMBER		SPECIFICATION		
HARRIS	; ; ; ;	HS6508RH-2	3H-2	1	; ; ; ; ; ; ; ; ; ;	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	
rpc:	NO. GF PARTS:	PARTS:	I DATA	SOURCE:	DATA SOURCE: UPL (2/82)	REF.NO.: 12	
ION ANGLE	ENERGY	BIAS	RUNS	FLUENCE			
0 +4	160MEV	100		4 , 6E9	. 6:		
ERROR CROSS SECTION MAX MEAN	SECTION		H CROSS	LATCH CROSS SECTION MAX MEAN			

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GENERIC PART NUMBER	NUMBER	FUNCTION	TECHNOLDGY	RECORD
6551	1 	256X4 RaM	CMOS	100161
MANUFACTURER		PART NUMBER	SPECIFICATION	
HARRIS	1 1 1 1 1 1	HM3-6551-9		
LDC:	NO. RE PARTS:	4	DATA SOURCE: JPL (2/82) RE	REF.NO.: 12
ION ANGLE	ENERGY	RUNS	Ш	
	595MEV	10V 4 2.8E1	2.8€10	
ERROR CROSS SECTION MAX MEAN	SECTION	LATCH CROSS SECTION MAX MEAN	NOI	
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GENERIC PART NUMBER	NUMBER	FUNCTION	TECHNOLOGY	RECORD
6551	 	256X4 RAM	CMDS	100162
MANUFACTURER		PART NUMBER	SPECIFICATION	
HARRIS	 	HS6551RH-9		
FDC:	NO. OF PARTS:	PARTS: 4 DAIA SO	4 DAIA SOURCE: JPL (2/82) REF.	REF.NO.: 12
ION ANGLE	ENERGY	BIAS RUNS	FLUENCE	
0 +d	595MEV	4	2.6E11	
ERROR CROSS SECTION MAX MEAN	SECTION	LATCH CROSS S MAX	ECTION	
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GENERIC PART NUMBER	UMBER	FUNCTION	TECHNOLOGY	RECORD
6551	1 	256X4 RAM	CMOS	100466
MANUFACTURER		PART NUMBER	SPECIFICATION	
HARRIS		HS6551RH		
rpc:	NO. OF PARTS:	ARTS: 4 DATA SQURCE: JPL (2/82)	: JPL (2/82) REF.NO.: 12	22
ION ANGLE	ENERGY	BIAS RUNS FLUENCE	:	
O +d	160MEV	10V 4 3.2E10		
ERROR CROSS SECTION MAX MEAN	SECTION MEAN	LATCH CROSS SECTION MAX. MEAN.		
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GENERIC PART NUMBER	NUMBER	FUNCTION	TECHNOLOGY	RECORD
6551		256X4 RAM	CMOS	100167
MANUFACTURER		PART NUMBER	SPECIFICATION	
HARRIS	; 	HM3-6551-9	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	!
rpc:	NO. OF PARTS:	_	DATA SOURCE: JPL (2/82)	REF.NO.: 12
ION ANGLE	ENERGY	RUNS	ICE	
	160MEY	100	3,2E9	
ERROR CROSS SECTION MAX MEAN	SECTION MEAN	LATCH CROSS SECTION MAX MEAN	NOI	

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GENERIC PART NUMBER	PART	NUMBE	α!	FUNCT	FUNCTION	1 1 2 1 1	TECHNOLOGY		RECORD
6605				4KX1 RAM	RAM		NMOS	! !	100110
MANUFACTURER	JRER			PART	PART NUMBER		SPECIFICATION		
MOTOROLA	! ! !) f () 1	!	MCM6605A	CMGGOSA	† † † † †		Į .	
LDC:		9	P	NO. OF PARTS:	3 DATA	SOURCE:	DATA SOURCE: RI/SAMSO	REF.NO.: 9	
ION ANG	ANGLE *	ENERGY *	λ5 :	BIAS	RUMS	FLUENCE			
ERROR CROSS SECTION MAX MEAN	ROSS	SECTION	0 2		LATCH CROSS SECTION MAX MEAN	SECTION	·		

REMARKS: ANGLES= 0 TO 60: ENERGY=30MEV TO 115 MEV: STD.DEV = 9.2E-6

GENERIC PART NUMBER	JMBER	FUNCTION	TECHNOLOGY	RECORD
6605		4KX1 RAM	NMOS	100111
MANUFACTURER		PART NUMBER	SPECIFICATION	
MOTOROLA	(. - -	MCM6605A	1	
N FDC:	10 . OF	NO. OF PARTS: 2 DATA SOURCE: RI/SAMSO	RI/SAMSO REF.NO.: 9	6 : . 9
ION ANGLE EI	ENERGY	BIAS RUNS FLUENCE		
ERROR CROSS SECTION MAX	ECT 103	LATCH CROSS S MAX		
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REMARKS: ENERGY= 14MEV TO 105MEV; STD. DEV = 3.2E-6

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GENERIC PART NUMBER: 74LS162	*
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RECORD	100124		1	REF.ND.: 10				
TECHNOLOGY	TTL	SPECIFICATION		DATA SOURCE: MIT/JPL		i i		i i
	# ! ! !		1	SOURCE:	FLUENCE	; 1 1 1 1 1	SECTION MEAN	Z
FUNCTION	COUNTER	PART NUMBER	TMS74LS162	—	RUNS	5V 1	O]
	1 6	ď	·	NO. OF PARTS:	ENERGY BI		SECTION	★1.2E-5
GENERIC PART NUMBER	74LS162	MANUFACTURER	TEXAS INSTRUMENTS		ANGLE		ERROR CROSS SECTION MAX MEAN	
GEN	74L	MAN	TEX	LDC:	NOI	X	₩	•

* ERROR CROSS SEC. IN ERRORS/PARTICLE/CHIP, NOT PER BIT REMARKS:

GENERIC PART NUMBER	NUMBER	KUNCTION	TECHNOLOGY	RECORD	
74LS95		4BIT SHIFT REGISTER	TTL	100123	
MANUFACTURER		PAST NUMBER	SPECIFICATION		
TEXAS INSTRUMENTS	ENTS	TM274LS95		1	
LDC:	NO. OF PARTS:	PARTS: 1 DATA SOURCE: MIT/JPL	MIT/JPL	REF.NO.: 10	
ION ANGLE	ENERGY	_			
KR O	120MEV	5V 1			
ERROR CROSS SECTION MAX MEAN	SECTION	LATCH CROSS S			
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GENERIC PART NUMBER FUN MANUFACTURER FAIRCHILD TA162 CDU MANUFACTURER FAIRCHILD TA16 LDC: NO OF PARTS: ION ANGLE ENERGY BIAS ERMARKS: ***********************************	 一十十两张张操作战 林林 林林 林林 林林 林林 林林 林林 林林 林林 林林 林林 林林 林林	IC PART NUMBER		RER PART NUMBER SPECTETOR	/4162 NO. OF PARTS	ANGLE ENERGY BIAS RUNS FLUENCE MIT/UPL REF.NO.:	MEAN LATCH GROSS SECTION MAX MEAN	*	**	S INSTRUMENTS TMS7495	NO. OF PARTS: 2 DATA SOURCE: MIT/UPL ANGLE ENERGY BIAS RUNS FILEWAY REF. NO. :	SECTION LATCH CROSS MEAN MAX 3.5E-6

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GENERIC PART NUMBER	JMBER	FUNCTION	UNCTION	! ! ! !	TECHNOLOGY	1 1 1 1	RECORD
76170		8B1T	BBIT SHIFT REGISTER	SISTER	TTL		100118
MANUFACTURER		PART	PART NUMBER		SPECIFICATION		
NATIONAL	i i i i	DM76L70	70	1	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	; t	
rDC:	NO. OF PARTS:	PARTS:	3 DAT	DATA SOURCE: MIT/JPL	MIT/JPL	REF.ND.: 10	10
ION ANGLE	ENERGY	BIAS	RUNS	FLUENCE			
KR 0	120MEV	25	ო				
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		TTL	100119
	PART NUMBER	SPECIFICATION	
NATIONAL DM	DM76L75		J
LDC: NO. OF PARTS:	rs: 1 DATA SOURCE: MIT/JPL		REF.NG.: 10
I ANGLE ENERGY	BIAS RUNS FLUENCE		
KR 0 120MEV	5 A		
ERROR CROSS SECTION MAX MEAN	LATCH CROSS SECTION MAX MEAN		

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GENERIC PART NUMBER	_	TECHNOLOGY	RECORD
76L75	COUNTER	TTL	100120
MANUFACTURER	BER	SPECIFICATION	
NATIONAL	DM76L75		
LDC: NO.	NO. OF PARTS: 3 DATA SOURCE: MIT/JPL	MIT/JPL REF.ND.: 10	Q
ION ANGLE ENERGY	GY BIAS RUNS FLUENCE	1	
ERROR CROSS SECTION MAX MEAN	LATCH CROSS S MAX		
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RECORD	100066	z	t	REF.NO.: 5			
TECHNOLOGY	171	SPECIFICATION		JPL (7/80)	۱.۵		
				DATA SOURCE: JPL (7/80)	FLUENCE 2.5E9	LATCH CROSS SECTION MAX MEAN	 N
FUNCTION	256X8 RAM	PART NUMBER	0	.е	RUNS	ATCH CRO	
FUNC	256X	PART	8X350	PARTS:	BIAS		 !
NUMBER				NO. OF PARTS:	ENERGY 56MEV	SECTION	1.8E-10
GENERIC PART NUMBER		MANUFACTURER	rics		ANGLE	ERROR CROSS SECTION MAX MEAN	5.6E-10
GENERIC	8X350	MANUFACTU	SIGNETICS	LDC:	10N 	ERROR MAX	S

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RECORD	100067	NOIL	M M M		
FUNCTION TECHNOLOGY	256X8 RAM TTL	PART NUMBER SPECIFICATION	8X350 RTS: 1 DATA SOURCE: JPL (7/80)	BIAS RUNS FLUENCE	LATCH CROSS SECTION KAX MEAN
GENERIC PART NUMBER		MANUFACTURER	NO. OF PA	ION ANGLE ENERGY E	ERROR CROSS SECTION MAX MEAN FEELST

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TECHNOLOGY	TTL +00068	SPECIFICATION		DATA SOURCE: JPL (7/80) REF.ND.; 5	FLUENCE 3. 1E9	SECTION
FUNCTION	256X8 RAM	PART NUMBER	8X350	8	BIAS RUNS FLL	LATCH CROSS SECTION MAX MEAN
UMBER	1 1 1 1 1			NO. OF PARTS:	ENERGY 26MEV	SECTION
GENERIC PART NUMBER	8X350	MANUFACTURER	SIGNETICS	rpc:	ION ANGLE	ERROR CROSS SECTION MAX MEAN

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	256X8 RAM TTL	PART NUMBER SPECI	8X350	ARTS: 2 DATA SOURCE: JPL (7/80)	BIAS RUNS FLUENCE	LATCH CROSS SI	
NUMBER		 		NO. OF PARTS:	ENERGY 18MEV	SECTION	
GENERIC PART NUMBER	8X350	MANUFACTURER	SIGNETICS	FDC:	ION ANGLE	ERROR CROSS SECTION MAX MEAN	

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GENERIC PART NUMBER	NUMBER	FUNCTION	TECHNOLOGY	RECORD
93L422		256X4 RAM	TTL	100031
MANUFACTURER		PART NUMBER	SPECIFICATION	
FAIRCHILD	 	93L422		ı
LDC:	NO. OF PARTS:	PARTS: 1 DATA SOURCE: JPL (1/81)		REF.NO.: 2
ION ANGLE	ENERGY 120MEV	BIAS RUNS FLUENCE	1.4	
ERROR CROSS SECTION MAX MEAN	SECTION MEAN	LATCH CROSS SECTION MAX MEAN		
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REF.NO.: 2

DATA SOURCE: JPL (1/81)

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931.422

MANUFACTURER FAIRCHILD

256X4 RAM

FUNCTION

GENERIC PART NUMBER

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	FATROTTE	REF.NO.: 2
	DARTS:	2 DATA SOURCE: UPL (1)
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TECHNOLOGY	TTL	SPECIFICATION		DATA SOURCE: JPL (11/80) REF	7. 5. E.9		
FUNCTION	256X4 RAM	PART NUMBER	93L422	-	BIAS RUNS FLUENCE	LATCH CROSS SECTION MAX MEAN	2
GENERIC PART NUMBER	93L422	MANUFACTURER	FAIRCHILD	LDC: NO. OF PARTS:	ION ANGLE ENERGY O 200MEV	ERROR CROSS SECTION MAX MEAN	7.E-11 4.E-11

RECORD 100044		REF.NO.: 3		
TECHNOLOGY TTL	SPECIFICATION	JPL (11/80)	ισ	
FUNCTION 256X4 RAM	PART NUMBER	ARTS: 1 DATA SOURCE: UPL (11/80)	BIAS RUNS FLUENCE	LATCH CROSS SECTION MAX MEAN
VUMBER		NO. OF PARTS:	ENERGY 200MEV	MEAN 1.E-11
GENERIC PART NUMBER	MANUFACTURER FAIRCHILD	rpc:	ION ANGLE	MAX MEAN TO THE TEST OF THE TEST OF THE TEST OF THE TEST OF THE TEST OF THE TEST OF THE TEST OF THE TEST OF THE TEST OF THE TEST OF THE TEST OF THE TEST OF THE TEST OF THE TEST OF THE TEST OF THE TEST OF THE TEST OF THE TEST OF THE TEST OF THE TEST OF THE TEST OF THE TEST OF THE TEST OF THE TEST OF THE TEST OF THE TEST OF THE TEST OF THE TEST OF THE TEST OF THE TEST OF THE TEST OF THE TEST OF THE TEST OF THE TEST OF THE TEST OF THE TEST OF THE TEST OF THE TEST OF THE TEST OF THE TEST OF THE TEST OF THE TEST OF THE TEST OF THE TEST OF THE TEST OF THE TEST OF THE TEST OF THE TEST OF THE TEST OF THE TEST OF THE TEST OF THE TEST OF THE TEST OF THE TEST OF THE TEST OF THE TEST OF THE TEST OF THE TEST OF THE TEST OF THE TEST OF THE TEST OF THE TEST OF THE TEST OF THE TEST OF THE TEST OF THE TEST OF THE TEST OF THE TEST OF THE TEST OF THE TEST OF THE TEST OF THE TEST OF THE TEST OF THE TEST OF THE TEST OF THE TEST OF THE TEST OF THE TEST OF THE TEST OF THE TEST OF THE TEST OF THE TEST OF THE TEST OF THE TEST OF THE TEST OF THE TEST OF THE TEST OF THE TEST OF THE TEST OF THE TEST OF THE TEST OF THE TEST OF THE TEST OF THE TEST OF THE TEST OF THE TEST OF THE TEST OF THE TEST OF THE TEST OF THE TEST OF THE TEST OF THE TEST OF THE TEST OF THE TEST OF THE TEST OF THE TEST OF THE TEST OF THE TEST OF THE TEST OF THE TEST OF THE TEST OF THE TEST OF THE TEST OF THE TEST OF THE TEST OF THE TEST OF THE TEST OF THE TEST OF THE TEST OF THE TEST OF THE TEST OF THE TEST OF THE TEST OF THE TEST OF THE TEST OF THE TEST OF THE TEST OF THE TEST OF THE TEST OF THE TEST OF THE TEST OF THE TEST OF THE TEST OF THE TEST OF THE TEST OF THE TEST OF THE TEST OF THE TEST OF THE TEST OF THE TEST OF THE TEST OF THE TEST OF THE TEST OF THE TEST OF THE TEST OF THE TEST OF THE TEST OF THE TEST OF THE TEST OF THE TEST OF THE TEST OF THE TEST OF THE TEST OF THE TEST OF THE TEST OF THE TEST OF THE TEST OF THE TEST OF THE TEST OF THE TEST OF THE TEST OF THE TEST OF THE TEST OF THE TEST OF THE TEST OF THE TEST OF THE TEST OF THE TEST OF THE TEST OF THE TE

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GENERIC PART NUMBER	JMBER	FUNCTION	TECHNOLOGY	RECORD
		256X4 RAM	TTL	100045
MANUFACTURER		PART NUMBER	SPECIFICATION	
FAIRCHILD	! ! !	93L422		!
2	10. OF F	NO. OF PARTS: 1 DATA SOURCE: JPL (11/80)		REF.NO.: 3
ANGLE EI	ENERGY 56MEV	BIAS RUNS FLUENCE	ισ	
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TECHNOLOGY	TTL	3ER SPECIFICATION		DATA SOURCE: JPL (11/80) REF.NO.: 3	RUNS FLUENCE	3 3.Es	LATCH CROSS SECTION MAX MEAN	
BER FUNCTION	256X4 RAM	PART NUMBER	93L422	NO. OF PARTS: 1	ENERGY BIAS RU	200MEV 5V		
GENERIC PART NUMBER	93L422	MANUFACTURER	AMD	LDC: NO	ION ANGLE ENE	P+ 0 200	ERROR CROSS SECTION MAX MEAN	

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GENERIC PART NUMBER	NUMBER	FUNCTION	TECHNOLOGY	RECORD
931,422		256X4 RAM	TTL	100047
MANUFACTURER		IUMBER	SPECIFICATION	
АМД		93L422		
LDC:	NO. OF PARTS:	PARTS: 1 DATA SOURCE: JPL (1/81)	JPL (1/81) REF.NO.;	n
TON ANGLE	ENERGY	BIAS RUNS FLUENCE		
P+ 0	56MEV	5V 3 3.E9	Lon	
ERROR CROSS SECTION MAX MEAN	SECTION MEAN	LATCH CROSS SI MAX		
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GENERIC PART NUMBER	UMBER	FUNCTION	TECHNOLOGY		RECORD
931422		256X4 RAM	TTL		100052
MANUFACTURER		UMBER	SPECIFICATION		
FAIRCHILD	1 ' 	93L422		1	
rpc:	NO. OF F	NO. OF PARTS: 6 DATA SOURCE: JPL (7/80)		REF.NO.: 4	
ION ANGLE	ENERGY	BIAS RUNS FLUENCE			
†	130MEV	5V 32 8.E11	-		
ERROR CROSS SECTION MAX MEAN	SECTION	LA			
1.55-11 8	8.8E-12	N.			

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RECORD			 4			
TECHNOLOGY	SPECIFICATION		JPL (7/80) REF.ND.:			
FUNCTION 256X4 RAM	PART NUMBER	931.422	ARTS: 5 DATA SOURCE: JPL (7/80)	BIAS RUNS FLUENCE	LATCH CROSS SECTION MAX MEAN	
VUMBER			NO. OF PARTS:	ENERGY 30MEV	SECTION MEAN	7.E-12
GENERIC PART NUMBER 93L422	MANUFACTURER	FAIRCHILD	rpc:	ION ANGLE	ERROR CROSS SECTION MAX MEAN	1.7E-11

GENERIC PART NUMBER	MBER	FUNCTION	TECHNOLOGY	
93L422	; 	256X4 RAM	TTL	100073
MANUFACTURER		PART NUMBER	SPECIFICATION	
FAIRCHILD	!!!!!!!!	93L422		
LDC:). OF P	NO. OF PARTS: 1 DATA SOURCE: JPL (7/80)	JPL (7/80) REF.NO.: 5	10
ION ANGLE EN	ENERGY 	BIAS RUNS FLUENCE	. 60	
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GENERIC PART NUMBER	NUMBER	FUNCTION	TECHNOLOGY	
93L422	 	256X4 RAM	TTL 100074	
MANUFACTURER		PART NUMBER	SPECIFICATION	
FAIRCHILD		93L422		
rpc:	NO. OF PARTS:	PARTS: 1 DATA SOURCE: JPL (7/80)	JPL (7/80) REF.NO.: 5	
ION ANGLE	ENERGY 26MEV	BIAS RUNS FLUENCE	: G	
ERROR CROSS MAX	SECTION	LATCH CRGSS SECTION MAX MEAN		
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GENERIC PART NUMBER	NUMBER	FUNCTION	TECHNOLOGY		5
93L422	f i i i i	256X4 RAM	TTL	100075	07.5
MANUFACTURER		PART NUMBER	SPECIFICATION		
FAIRCHILD	!	93L422		1 1	
rpc:	NO. OF PARTS:	PARTS: 1 DATA SOURCE: JPL (7/80)		REF.NO.: 5	
ION ANGLE	ENERGY 18MEV	BIAS RUNS FLUENCE	! 6 .		
ERROR CROSS SECTION MAX MEAN	SECTION MEAN	LATCH CROSS SECTION MAX MEAN			

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TECHNOLOGY	SPECIFICATION	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	JPL (7/80)		6		!
FUNCTION 256X4 RAM	PART NUMBER	93L422	TS: 1 DATA SOURCE: JPL (7/80)	BIAS RUNS FLUENCE	5V 2 5.E9	LATCH CROSS SECTION MAX MEAN	(N
GENERIC PART NUMBER	MANUFACTURER	FAIRCHILD	LDC: NO. OF PARTS:	ENERGY	r 15MEV	ERROR CROSS SECTION MAX MEAN	-

RECORD	100152		1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	REF.NO.: 12		
TECHNOLOGY	TTL	SPECIFICATION		JPL (2/82)	: 5	ı
FUNCTION	256X4 RAM	MBER	931,422	ARTS: 3 DATA SOURCE: JPL (2/82)	BIAS RUNS FLUENCE	LATCH CROSS SECTION MAX MEAN
VUMBER	1			NG. OF PARTS:	ENERGY 595MEV	SECTION MEAN 1.8E-10
GENERIC PART NUMBER	93L422	MANUFACTURER	FAIRCHILD	rpc:	ION ANGLE	ERROR CROSS SECTION MAX MEAN 2.3E-10 1.8E-10

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FUNCTION	256X4 RAM	PART NUMBER	931,422	NO. OF PARTS: 4	BIAS RUNS				:	:	!	:	!		1	!	1
NUMBER	1 			NO. 0F	ENERGY	355MEV	SECTION					4 25-40	1.2F-10	1.2E-10	1.2E-10	1.2E-10	1.2E-10
GENERIC PART NUMBER	931422	MANUFACTURER	FAIRCHILD	LDC:	ION ANGLE	‡	ERROR CROSS SECTION MAX MEAN		1 1 1 1	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		1 56-10	1.5E-10	1.5E-10	1.5E-10	1.5E-10	1.5E-10

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TECHNOLOGY	100156	SPECIFICATION	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	2/82) REF.ND.: 12		
FUNCTION	256X4 RAM TTL	œ	93L422	PARTS: 3 DATA SOURCE: UPL (2/82)	BIAS RUNS FLUENCE	MAX MEAN
GENERIC PART NUMBER	93L422	MANUFACTURER	FAIRCHILD	LDC: NO. OF PARTS:	ION ANGLE ENERGY	ERROR CROSS SECTION MAX MEAN

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GENERIC PART NUMBER	UMBER	FUNCTION	TECHNOLOGY	RECORD	۵
931422		256X4 RAM	TTL	100168	1 00
MANUFACTURER		PART NUMBER	SPECIFICATION		
FAIRCHILD	f 4 1 1 1	931422)	!	
rpc:	NO. OF PARTS:	ARTS: 1 DATA SOURCE: JPL (7/80)	JPL (7/80)	REF, NO.: 5	
ION ANGLE	ENERGY 26MEV	BIAS RUNS FLUENCE	; 60		
ERROR CROSS SECTION MAX MEAN	SECTION	LATCH CROSS SECTION MAX MEAN			
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REMARKS: DELIDDED

GENERIC PART NUMBER	NUMBER	FUNCTION	TECHNOLOGY	RECORD
93L422	1	256X4 RAM	TTL	100169
MANUFACTURER		PART NUMBER	SPECIFICATION	
FAIRCHILD		93L422		
rpc:	NO. OF PARTS:	PARTS: 1 DATA SOURCE: UPL (7/80)	JPL (7/80) REF.NO.: 5	ហ
ION ANGLE	ENERGY	_		
	18MEV	5V 3 7.5E9	 E9	
	SECTION	LATCH CROSS SECTION MAX MEAN		
4E-12	4E-12			

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REMARKS: DELIDDED

GENER	PART	UMBER		FUNCTION	20			TECH	TECHNOLOGY		RECORD
931.425				IKX 1 RAM	Aï	 	, 1 1 1 1	TTL		; ; ; ;	100153
MANUF	MANUFACTURER		ā	PART NUMBER	UMBE	α		SPE(SPECIFICATION		
FAIRCHILD	FAIRCHILD		்	93L425	! ! ··· !	t 1 t	6 1 1 1 1	Î			
rpc:		NO. OF PARTS:	PAR	TS:		DATA	DATA SOURCE: JPL (2/82	19U	(2/82	REF.NO.: 12	12
ION	ANGLE	ENERGY		BIAS	RUNS		FLUENCE				
ű.	0	535MEV		1 01	Ξ		9.68	9.68			
H X X E I	ERROR CROSS SECTION MAX MEAN	SECTION MEAN	Z :	LAT	TCH CROS	ROSS	LATCH CROSS SECTION MAX MEAN	إ يو.			

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GENER	GENERIC PART NUMBER	NUMBER	_	NOIT		TRCH	TECHNOLOGY		RECORD
93L425		 	1KX1 RAM	RAM	! ! ! !	11 11) 	100155
MANUE	MANUFACTURER		PART	PART NUMBER		SPEC	SPECIFICATION		
FAIRCHILD	HILD	 	931.425	25) 	! ! !	! ! ! !		
LDC:		NO. OF	NO. OF PARTS: 2		DATA SOURCE: JPL (2/82)	JPL	(2/82)	REF.NO.: 12	2
ION	ANGLE	ENERGY	BIAS	_	FLUENCE				
+	0	355MEV		4	1.169	<u>.</u> 6			
ERRC	ERROR CROSS SECTION MAX MEAN	SECTIO		LATCH CROSS SECTION MAX MEAN	SECTION				

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GENERIC PART NUMBER	UMBER	FUNCTION	NOI		TECHNOLOGY		RECORD
		1KX1 RAM	RAM	i i i	TTL	1	100157
MANUFACTURER		PART	PART NUMBER		SPECIFICATION		
FAIRCHILD	- - - -	931.425	10 	! ! ! !	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	!	
rpc:	NO. OF PARTS: 3	PARTS:		SOURCE:	DATA SOURCE: JPL (2/82)	REF.NO.: 12	12
ION ANGLE	ENERGY	BIAS	RUNS	FLUENCE			
	160MEV	10	6	4.9E9	6		
ERROR CROSS SECTION MAX MEAN 7.6E-11 4.1E-11	SECTION MEAN 	LA1	LATCH CROSS SECTION MAX MEAN	SECTION MEAN			

GENERIC PART NUMBER	NUMBER	FUNCTION	TECHNOLOGY	RECORD
93510	 	COUNTER	111	100130
MANUFACTURER		JMBER	SPECIFICATION	
FAIRCHILD	 	93510		\$ 1 !
LDC:	NO. OF	NO. OF PARTS: 1 DATA SOURCE: MIT/JPL	MIT/JPL	REF.ND.: 10
ION ANGLE	ENERGY	BIAS		
KR	120ME√	5V 2	•	
ERROR CROSS SECTION MAX MEAN	SECTION	LATCH CROSS SECTION MAX MFAN		

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TECHNOLOGY RECORD		SPECIFICATION	*	/JPL REF.NO.: 10			
TEC	711	SPE		SOURCE: MIT	FLUENCE		SECTION
FUNCTION	COUNTER	PART NUMBER	93510	NO. OF PARTS: 1 DATA SOURCE: MIT/JPL	BIAS RUNS	5V 1	LATCH CROSS SECTION MAX MEAN
NUMBER			1 1 1 1 1	NO. OF PA	ENERGY	120MEV	SECTION
GENERIC PART NUMBER	93510	MANUFACTURER	FAIRCHILD	LDG:	ION ANGLE	KR 65	ERROR CROSS SECTION MAX MEAN

TECHNOLOGY	TTL 100048	SPECIFICATION		DATA SOURCE: JPL (11/80) REF.NO.: 3	-LUENCE 	NOI	
FUNCTION	256X4 RAM	PART NUMBER	93422	NO. OF PARTS: 4 DATA SOUR	BTAS RUNS FLUENCE	LATCH CROSS SI MAX	1
NUMBER	:		 	NO. 0F	ENERGY 200MEV	SECTION MEAN	
GENERIC PART NUMBER	93422	MANUFACTURER	AMD	rpc:	ION ANGLE	ERROR CROSS SECTION MAX MEAN	(·

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REMARKS:

GENERIC PART NUMBER: 93422

GENERIC PART NUMBER	NUMBER	FUNCTION	TECHNOLOGY	RECORD
93422		256X4 RAM	TTL	100049
MANUFACTURER		PART NUMBER	SPECIFICATION	
AMD	 	93422		1· 1· 1·
rpc:	NO. OF PARTS:	PARTS: 1 DATA SOURCE: JPL (11/80)	JPL (11/80)	REF.NO.: 3
ION ANGLE	ENERGY 56MEV	BIAS RUNS FLUENCE	# 6	
ERROR CROSS SECTION MAX MEAN	SECTION MEAN	LATCH CROSS SECTION MAX MEAN		
2.E-10	2.E-10	NF		

REMARKS:

GENERIC PART NUMBER	NUMBER	Z	TECHNOLOGY	RECORD
93422		256X4 RAM T	77.	100070
MANUFACTURER		UMBER	SPECIFICATION	
FAIRCHILD	i - - - - -	93422		
LDC:	NO. OF	ND. OF PARTS: 2 DATA SOURCE: JPL (7/80)	PL (7/80) REF.NO.: 5	ن
ION ANGLE	ENERGY	BIAS RUNS		
0 +d	36MEV	5V 4 4.2E9		
ERROR CROSS SECTION MAX MEAN	SECTION	LATCH CROSS SI MAX		
8.5E-12	7.9E-12	N N		

REMARKS:

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GENERIC PART NUMBER	ART N	IUMBER	FUNCTION	NO		TECHNOLOGY	REC	RECORD
93422		1 	256X4 RAM	RAM		TTL	100	100071
MANUFACTURER	RER		PART	PART NUMBER		SPECIFICATION) - -	
FAIRCHILD	1 		93422					
rpc:		NO. OF PARTS:	ARTS:	1 DATA	SOURCE:	DATA SOURCE: JPL (7/80)	REF.NO.: 5	
	· E	ENERGY	BIAS	ш	FLUENCE			
0 +d	0	18MEV	50	(F)	9.E9	. S		
ERROR CI	ROSS	ERROR CROSS SECTION MAX MEAN	- V	LATCH CROSS SECTION MAX MEAN	SECTION	ļ		
1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	 	ZE		1 1 1 1 1 1 1	Z			

GENERIC PART NUMBER	PART	NUMBER	FUNCTION	NOI	,		TECH	TECHNOLOGY	: : :	RECORD
93422		[256X4 RAM	RAM	I I I	 	11L			100072
MANUFACTURER	URER		PART NUMBER	NUMBE	œ		SPEC	SPECIFICATION		
FAIRCHILD	0	 	93422	!			· - -			
rpc:		NO. OF	PARTS:	8	DATA	NO. OF PARTS: 2 DATA SOURCE: JPL (7/80)	JPL	(1/80)	REF.NO.: 5	
	ANGLE	ENERGY	BIAS RUNS	RUNS		FLUENCE	i			
+	0	26MEV	50			1.4E10	0			
ERROR	CROSS	ERROR CROSS SECTION MAX MEAN		TCH CROS	ROSS	MAX MEAN	1			
4 7E-12		2.7E-12	!		- 	뒫				

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REMARKS:

RECORD 100050

TECHNOLOGY

FUNCTION

GENERIC PART NUMBER

1K RAM

SPECIFICATION

PART NUMBER 93423

MANUFACTURER

FAIRCHILD

REF.NO.: 3

DATA SOURCE: JPL (11/80)

NO. OF PARTS:

LDC:

1.E9

FLUENCE

RUNS

BIAS 5

ENERGY -----ZOOMEV

ANGLE

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LATCH CROSS SECTION MAX MEAN

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2.E-10

2.E-10

REMARKS:

ERROR CROSS SECTION
MAX MEAN

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ION TECHNOLOGY RECORD O	F 150001			REF. NO .: 3		
TECHNOLOGY	TTL	SPECIFICATION		DATA SOURCE: JPL (11/80)).E 7.E9	
FUNCTION	IK RAM	PART NUMBER	93423	PARTS: 1 DATA SOURCE:	BIAS RUNS FLUENCE	LATCH CROSS SECTION MAX MEAN
GENERIC PART NUMBER	93423	MANUFACTURER	FAIRCHILD	LDC: NO. OF P	ION ANGLE ENERGY P+ OKL7) V	ERROR CROSS SECTION MAX MEAN

REMARKS:

8.E-11

6.E-12

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GENERIC PART NUMBER	FUNCTION 1K RAM	TECHNOLOGY TTL	RECORD 100054	
MANUFACTURER FAIRCHILD	PART NUMBER	SPECIFICATION		
LDC: NO. OF	PARTS: 4 DATA SOURCE: JPL (7/80)	JPL (7/80)	REF.NO.: 4	
IDN ANGLE ENERGY	BIAS RUNS FLUENCE			
MAX MEAN 7.8E-12 5.5E-12	MAX MEAN MEAN			

REMARKS:

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GENERIC PART NUMBER	NUMBER	FUNCTION	TECHNOLOGY	
93423		1K RAM	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	KECURD 100055
MANUFACTURER		PART NUMBER	SPECIFICATION	
FAIRCHILD		93423		
LDC:	NO. OF PARTS:	PARTS: 1 DATA SOURCE: JPL (7/80)	JPL (7/80) REF.ND.: 4	
ION ANGLE	ENERGY 130MEV	BIAS RUNS FLUENCE	. 0	
ERROR CROSS SECTION NAX MEAN	SECTION	LATCH CROSS SECTION MAX MEAN		
8.6E-12	3.8E-12	IN.	ŗ	

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REMARKS:

100056 RECORD

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FUNCTION 1K RAM

GENERIC PART NUMBER

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93423

REF .NO.: 4

DATA SOURCE: JPL (7/80)

NO. OF PARTS: 4

roc:

3.E10 FLUENCE

> RUNS 12

BIAS 2

ENERGY 30MEV

ANGLE

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LATCH CROSS SECTION MAX MEAN

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5.9E-12

ERROR CROSS SECTION MAX MEAN

SPECIFICATION

PART NUMBER

MANUFACTURER

FAIRCHILD

93423

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RAM NUMBER 1 DATA SOU 4 A	GENERIC PART NUMBER FUNCTION GENERIC PART NUMBER AKX1 RAM 93471 FAIRCHILD LDC: NO. OF PARTS: 1 DATA SOU LDC: NO. OF PARTS: 1 DATA SOU EDC: NO. OF PARTS: 1 DATA SOU A A A A A A A A A A A A A A A A A A A	OI	RECOND RECOND 100115 100115 100115 11001	QUALIT	RCE: RI/SAMSO REF.NO.: 9	INCE
RAM NUMBER 1 DATA SOL 4 DATA SOL 4 DATA SOL 5 RUNS FLU	UMBER FUNCTION 4KX1 RAM 4KX1 RAM 93471 NO. OF PARTS: 1 DATA SOU ENERGY BIAS RUNS FLU 5V 4	***************************************	TECHNOLOGY	SPECIFICATI	DATA SOURCE: RI/SAMSO	FLUENCE
	UMBER FUNCT 4KX1 4KX1 AKX1 AKX1 AKX1 FART 9347 BIA ENERGY BIA	****	FION	NUMBER	-	RUNS

LATCH CROSS SECTION MAX MEAN ERROR CRUSS SECTION MAX MEAN 6.6E-6

PAGE B- 72 REMARKS: ENERGY = 14MEV TO 115MEV: STD. DEV. = 1.5E-6

A PA PA	D/ I J J J				
	RECORD	18000	α		
***************************************	TECHNOLOGY IIL	SPECIFICATION	/RI/NWSC REF.ND.: R		
**************************************	FUNCTION TEC	PART NUMBER SPI	ARTS: 1 DATA SOURCE: UPL/RI/NWSC	BIAS RUNS FLUENCE	MAX MEAN MEAN
***************************************	GENERIC PART NUMBER	MANUFACTURER TEXAS INSTRUMENTS	LDC: NO. OF PA	ION ANGLE ENERGY KR O 144MEV	MAX MEAN *8.E-6 *8.E-6
GENERIC PART NUMBER: ************************************					

REMARKS: I(INJ)=604MA; F=3MHZ * CROSS SEC. IN ERRORS/PARTICLE/CHIP, NOT PER BIT

RECORD 100092		‡ - - - - - - - - -	REF.NO.:. B		
TECHNOLOGY IIL	SPECIFICATION		JPL/RI/NWSC	! 6:	
FUNCTION	PART NUMBER	SBP9900A	PARTS: 3 DATA SOURCE: UPL/RI/NWSC	BIAS RUNS FLUENCE	LATCH CROSS SECTION MAX MEAN
GENERIC PART NUMBER	MANUFACTURER	LEXAS INSTRUMENTS	LDC: NO. OF PARTS:	ION ANGLE ENERGY	ERROR CROSS SECTION MAX MEAN *1.3E-5 *1.2E-5

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REMARKS: I(INJ)=500MA: F=3MHZ * CROSS SEC. IN ERRORS/PARTICLE/SHIP, NOT PER BIT

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GENERIC PART NUMBER	FUNCTION	TECHNOLOGY	RECORD
0066	ESSOR	IIL	100093
MANUFACTURER	MBER	SPECIFICATION	
TEXAS INSTRUMENTS	SBP9900A		
LDC: NO. OF PARTS:	PARTS: 1 DATA SOURCE: JPL/RI/NWSC		REF.NO.: 8
ION ANGLE ENERGY	BIAS RUNS FLUENCE		
0	1 4.8E6	ı 10	
ERROR CROSS SECTION MAX MEAN	LATCH CROSS SI MAX		
	1	•	

REMARKS: IINJ)=507MA: F=.3MHZ *CROSS SEC. IN ERRORS/PARTICLE/CHIP, NOT PER BIT

GENERIC PART NUMBER	UMBER	FUNCTION	TECHNOLOGY	RECORD
0066		CESSOR	11	100094
MANUFACTURER		PART NUMBER	SPECIFICATION	
TEXAS INSTRUMENTS	NTS	SBP9900A		1
LDC:	NO. OF PARTS:	PARTS: 1 DATA SOURCE: UPL/RI/NWSC		REF.NO.: 8
	ENERGY	RUNS		
KR	144MEV	1 4.9E6		
ERROR CROSS SECTION MÁX MEAN	SECTION	LATCH CROSS SECTION MAX MEAN		
*8.1E-6	*8.1E-6		•	

REMARKS: I(INJ)=98MA: F=.3MHZ *CROSS SEC. IN ERRORS/PARTICLE/CHIP, NOT PER BIT

GENERIC PART NUMBER	PART	NUMBE	Ω	FUNCTION	NOI				TECHNOLOGY	≻ 5		RECORD
0066		:	<u>.</u>	MICROPROCESSOR	PRO	CES	8	I	111	 	!	100095
MANUFACTURER	rurer			PART NUMBER	NON	BER			SPECIFICATION	ATION		
TEXAS INSTRUMENTS	USTRUM	ENTS	!	SBP9900A	00A	i i i	!	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	† † † † † † † † † † † † † † † † † † †] 		
LDC:		Q	P	NO. OF PARTS:	,—	۵	TA	SOURCE:	DATA SOURCE: JPL/RI/NWSC	NSC.	REF.NO.: 8	€0
ION AN	ANGLE	ENERGY	<u>}</u>	BIAS		RUNS		FLUENCE	į			
œ œ	45	144MEV	E			-		1.9E6	9			
ERROR CI	ERROR CROSS SECTION MAX MEAN	SECTIO	NO Z		MAX	TCH CROS	SS	LATCH CROSS SECTION MAX MEAN	!			

REMARKS: I(INJ)=500MA: F=3.MHZ *CROSS SEC. IN ERRORS/PARTICLE/CHIP, NOT PER BIT

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GENERIC PART NUMBER	NUMBER	FUNCTION	ION	1	TECHNOLOGY	RE	RECORD
0066		MICRO	MICROPROCESSOR		III	100	100096
MANUFACTURER		PART	PART NUMBER		SPECIFICATION		
TEXAS INSTRUMENTS	ENTS	SBP9900A	30A		1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	.]	
TDC:	NO. OF PARTS:	PARTS:	2 DATA	SOURCE:	DATA SOURCE: UPL/RI/NWSC	REF.NO.: 8	
ION ANGLE	ENERGY	BIAS		FLUENCE			
	144MEV	! ! !	ເ ຕ !	7.8E6	ιψ		
ERROR CROSS SECTION MAX MEAN	SECTION		LATCH CROSS SECTION MAX MEAN	SECTION			

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REMARKS: I(INJ)=500MA: F=3.MHZ *CRUSS SEC. IN ERRORS/PARTICLE/CHIP, NOT PER BIT

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*4.8E-5

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RECORD 100097	1	REF.NO.: 8		
TECHNOLOGY	SPECIFICATION	DATA SOURCE: UPL/RI/NWSC	. <u>.</u>	
FUNCTION	PART NUMBER SBP9900A	, '+	BIAS RUNS FLUENCE	LATCH CROSS SECTION MAX MEAN
GENERIC PART NUMBER	MANUFACTURER TEXAS INSTRUMENTS	LDC: NO. OF PARTS:	ION ANGLE ENERGY	MAX MEAN MEAN MEAN MEAN MEAN MEAN MEAN MEAN

REMARKS: I(INJ)=500MA: F=3.MHZ

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	FUNCTION	MICROPROCESSOR	PART NUMBER SPECIFICATION	SBP9900A	PARTS: 1 DATA SOURCE: UPL/RI/NWSC	BIAS RUNS FLUENCE	ר א. י	N
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REMARKS: I(INJ)=500MA; F=3.MHZ

GENERIC PART NUMBER	FUNCTION	TECHNOLOGY	RECORD
0066	MICROPROCESSOR	III	100099
MANUFACTURER	PART NUMBER	SPECIFICATION	
TEXAS INSTRUMENTS	SBP9900A	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	,
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REMARKS: I(INJ)=500MA: F=3MHZ

C PAR	GENERIC PART NUMBER	FUNCTION	NOI	1 1 1 1	TECHNOLOGY	RECORD
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MANUFACTURER		PART	PART NUMBER		SPECIFICATION	
TEXAS INSTRUMENTS	ENTS	SBP9989	SBP9989	3 1 1 1 1 1		1 † † †
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ERROR CROSS SECTION	SECTION		TCH CROS	LATCH CROSS SECTION		

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REMARKS: I(INJ)=400MA: F=3.MHZ *CROSS SEC. IN ERRORS 'PARTICLE/CHIP, NOT PER BIT

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OF	POOR	QUALI	TY

GENERIC PART NUMBER	NUMBER	FUNCTION	TECHNOLOGY		RECORD
9989	 - 	MICROPROCESSOR	III	!	100101
MANUFACTURER		PART NUMBER	SPECIFICATION		
TEXAS INSTRUMENTS	ENTS	SBP9989		* 1	
rpc:	NO. OF PARTS:	8	DATA SOURCE: JPL/RI/NWSC	REF.NO.: 8	
ION ANGLE	ENERGY	_	FLUENCE		
KR 60	144MEV		3.9E5		
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*3.6E-4	*2.6E-4		N.		

REMARKS: I(INJ)=400MA: F=3.MHZ *CROSS SEC. IN ERRORS/PARTICLE/CHIP, NOT PER BIT

GENER	GENERIC PART NUMBER	NUMBER	FUNCTION	NOI		TECHNOLOGY	RECORD
9989			MICROPROC	MICROPROCESSOR	. ~	IIL	100102
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TEXAS	TEXAS INSTRUMENTS	ENTS	SBP9989	39			1
rpc:		NO. 0F	NO. OF PARTS: 1		N SOURCE:	DATA SOURCE: UPL/RI/NWSC	REF.NO.: 8
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X X	09	144MEV	! ! !	-	5.7E5	ı ın	
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REMARKS: I(INJ)=400MA: F=.3MHZ *CROSS SEC. IN ERRORS/PARTICLE/CHIP, NOT PER BIT

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RECORD 100103

TECHNOLOGY

FUNCTION

GENERIC PART NUMBER

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SPECIFICATION

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REMARKS: I(INJ)=90MA: F=.3MHZ *CROSS SEC. IN ERRORS/PARTICLE/CHIP, NOT PER BIT

GENERIC PART NUMBER	FUNCTION	TECHNOLOGY	RECORD
6866	MICROPROCESSOR	IIL	100104
MANUFACTURER	PART NUMBER	SPECIFICATION	
TEXAS INSTRUMENTS	SBP9989	· · · · · · · · · · · · · · · · · · ·	ļ
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1GN ANGLE ENERGY	BIAS RUNS FLUENCE	! <u>9</u>	
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REMARKS: I(INJ)=400MA: F=3.MHZ *CROSS SEC. IN ERRORS/PARTICLE/CHIP, NOT PER BIT

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*3.6E-7

*3.6E-7

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ORI	GINAL	PAGE	13
OF	POOR	QUALI	TY

GENERIC PART NUMBER	MBER	FUNCTION	TECHNOLOGY	RECORD
6866		MICROPROCESSOR	IIL	100105
MANUFACTURER		PART NUMBER	SPECIFICATION	
TEXAS INSTRUMENTS	T.S.	SBP9989		
LDC: NC	NO. OF PARTS:	ARTS: 2 DATA SOURCE: UPL/RI/NWSC	UPL/RI/NWSC REF.NO.: 8	∞ ∵:
IDN ANGLE EN	ENERGY 1	BIAS RUNS FLUENCE	4.3	
ERROR CROSS SECTION MAX MEAN	ECT ION MEAN	LATCH CROSS SECTION MAX MEAN		
	*1.4E-5	IN		

REMARKS: I(INJ)=400MA: F=3.MHZ *CROSS SEC. IN ERRORS/PARTICLE/CHIP, NOT PER BIT

RECORD 100106		80		
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FUNCTION TO MICROPROCESSOR	PART NUMBER S	PARTS: 1 DATA SOURCE: UPL/RI/NWSC	BIAS RUNS FLUENCE	MAX MEAN MEAN
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REMARKS: I(INJ)=400MA: F=3.MHZ *CROSS SEC. IN ERRORS/PARTICLE/CHIP, NOF PER BIT

RECORD 100107

TECHNOLOGY

IIL

MICROPROCESSOR

FUNCTION

GENERIC PART NUMBER

9989

PART NUMBER SBP9989

TEXAS INSTRUMENTS

MANUFACTURER

NO. OF PARTS:

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ENERGY 102MEV

ANGLE 9

NO 1 0

SPECIFICATION

REMARKS: I(INJ)=400MA: F=3.MHZ *CROSS SEC. IN ERRORS/PARTICLE/CHIP, NOT PER BIT

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REMARKS: I(INJ)=400MA: F=3.MHZ *CROSS SEC. IN ERRORS/PARTICLE/CHIP, NOT PER BIT

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GENERIC PART NUMBER	FUNCTION	TECHNOLOGY	RECORD
9989	MICROPROCESSOR	III	100109
MANUFACTURER	PART NUMBER	SPECIFICATION	
TEXAS INSTRUMENTS	SBP9989		
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REMARKS: I(INJ)=400MA: F=3.MHZ *GROSS SEC. IN ERRORS/PARTICLE/CHIP, NOT PER BIT

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*5.9E-6